SNC-C7478

36x Network Smart Dome Camera

User Manual

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SAMSUNG

safety information

CAUTION

RISK OF ELECTRIC SHOCK.
DO NOT OPEN

CAUTION: TO REDUCE THE RISK OF ELECTRIC SHOCK, DO NOT REMOVE COVER (OR BACK) NO USER SERVICEABLE PARTS INSIDE. REFER SERVICING TO QUALIFIED SERVICE PERSONNEL.

This symbol indicates that dangerous voltage consisting a risk of electric shock is present within this unit.

This exclamation point symbol is intended to alert the user to the presence of important operating and maintenance (servicing) instructions in the literature accompanying the appliance.

WARNING

- To reduce the risk of fire or electric shock, do not expose this appliance to rain or moisture.
- To prevent injury, this apparatus must be securely attached to the floor/wall in accordance with the installation instructions.
- If this power supply is used at 24V AC, a suitable plug adapter should be used.

WARNING

1. Be sure to use only the standard adapter that is specified in the specification sheet.
   Using any other adapter could cause fire, electrical shock, or damage to the product.
2. Incorrectly connecting the power supply or replacing battery may cause explosion, fire, electric shock, or damage to the product.
3. Do not connect multiple cameras to a single adapter. Exceeding the capacity may cause abnormal heat generation or fire.
4. Securely plug the power cord into the power receptacle. Insecure connection may cause fire.
5. When installing the camera, fasten it securely and firmly. The fall of camera may cause personal injury.
6. Do not place conductive objects (e.g. screwdrivers, coins, metal parts, etc.) or containers filled with water on top of the camera. Doing so may cause personal injury due to fire, electric shock, or falling objects.
7. Do not install the unit in humid, dusty, or sooty locations. Doing so may cause fire or electric shock.
8. If any unusual smells or smoke come from the unit, stop using the product. In such case, immediately disconnect the power source and contact the service center. Continued use in such a condition may cause fire or electric shock.
9. If this product fails to operate normally, contact the nearest service center. Never disassemble or modify this product in any way. (SAMSUNG is not liable for problems caused by unauthorized modifications or attempted repair.)
10. When cleaning, do not spray water directly onto parts of the product. Doing so may cause fire or electric shock
11. If the camera is installed or rebooted after power failure when ambient temperature is below the freezing point, the dome cover is frosted. In this case, the frost will be disappeared after 3 hours after turning on the power.
    (It is noted that lowest guaranteed operating temperature is -45ºC(-49ºF) without wind.).
12. Do not expose the product to the direct airflow from an air conditioner.
    Otherwise, it may cause moisture condensation inside the Clear Dome due to temperature difference between internal and external of the dome camera.
13. If you install this product in a low-temp area such as inside a cold store, you must seal up the wiring pipe with silicon, so that the external air can not flow inside the housing.
    Otherwise, external high, humid air may flow inside the housing, pooling moisture or vapor inside the product due to a difference between internal and external temperature.

CAUTION

1. Do not drop objects on the product or apply strong blows to it. Keep away from a location subject to excessive vibration or magnetic interference.
2. Do not install in a location subject to high temperature (over 140°F), low temperature (below -49°F), or high humidity. Doing so may cause fire or electric shock.
3. If you want to relocate the already installed product, be sure to turn off the power and then move or reinstall it.
4. Remove the power plug from the outlet when there is a lighting storm. Neglecting to do so may cause fire or damage to the product.
5. Keep out of direct sunlight and heat radiation sources. It may cause fire.
6. Install it in a place with good ventilation.
7. Avoid aiming the camera directly towards extremely bright objects such as sun, as this may damage the CCD image sensor.
8. Apparatus shall not be exposed to dripping or splashing and no objects filled with liquids, such as vases, shall be placed on the apparatus.
9. The Mains plug is used as a disconnect device and shall stay readily operable at any time.

FCC Statement

This device complies with part 15 of the FCC Rules. Operation is subject to the following two conditions :

1) This device may not cause harmful interference, and

2) This device must accept any interference received including interference that may cause undesired operation.

Caution

This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to part 15 of FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment.
This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at his own expense.

IC Compliance Notice

This Class A digital apparatus meets all requirements of the Canadian Interference.-Causing Equipment Regulations of ICES-003.

important safety instructions

1. Read these instructions.
2. Keep these instructions.
3. Heed all warnings.
4. Follow all instructions.
5. Do not use this apparatus near water.
6. Clean only with dry cloth.
7. Do not block any ventilation openings. Install in accordance with the manufacturer's instructions.
8. Do not install near any heat sources such as radiators, heat registers, or other apparatus (including amplifiers) that produce heat.
9. Do not defeat the safety purpose of the polarized or grounding-type plug. A polarized plug has two blades with one wider than the other. A grounding type plug has two blades and a third grounding prong. The wide blade or the third prong is provided for your safety. If the provided plug does not fit into your outlet, consult an electrician for replacement of the obsolete outlet.
10. Protect the power cord from being walked on or pinched particularly at plugs, convenience receptacles, and the point where they exit from the apparatus.
11. Only use attachments/accessories specified by the manufacturer.
12. Use only with cart, stand, tripod, bracket, or table specified by the manufacturer, or sold with the apparatus.
13. Unplug this apparatus when a card is used. Use caution when moving the cart/ apparatus combination to avoid injury from tip-over.

14. Refer all servicing to qualified service personnel. Servicing is required when the apparatus has been damaged in any way, such as powersupply cord or plug is damaged, liquid has been spilled or objects have fallen into the apparatus, the apparatus has been exposed to rain or moisture, does not operate normally, or has been dropped.

Apparatus shall not be exposed to dripping or splashing and no objects filled with liquids, such as vases, shall be placed on the apparatus

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FEATURES

❖ Network Specifications

- Powerful Dual Stream by using DSP based MPEG4, MJPEG compression
- Superior Video Quality and System Stability.
- High speed : Up to 30 fps at 720x480, 25 fps at 720x576.
- Web Browser based viewer support.
- Remote Pan/Tilt/Zoom control.
- Bidirectional Audio support.
- Support with DDNS Service (Samsung DDNS, Public DDNS) for Dynamic IP.
- Various protocol support. (ARP, HTTP, HTTPS, DHCP, TCP/IP, UDP, RTP/RTSP, SMTP, FTP, SNMP, etc)
- IPv4/IPv6 support.
- Alarm Function
- Motion Detection Function
- Micro SD Card Backup

❖ Camera Specifications

- CCD Sensor : 1/4" Interline Transfer CCD
- Zoom Magnification : × 36 Optical Zoom, × 12 Digital Zoom (Max × 432 Zoom)
- Day & Night Function : ICR (IR Cut filter Removal)
- Various Focus Mode : Auto Focus / Manual Focus / ONEAF Focus.
- Independent or Global camera settings for each Preset locations.

❖ Powerful Pan/Tilt Functions

- Max. 360°/sec high speed Pan/Tilt Motion
- Using Vector Drive Technology, Pan/Tilt motions are accomplished in the shortest path. As a result, time to target view is reduced dramatically and the video on the monitor is very natural to watch.
- Ultra low speed (0.05°/sec) enables operator to locate camera to desired target view with accuracy and ease.
- Zoom-proportional pan/tilt speed helps operator to move the camera easily.

❖ Preset, Pattern, Auto Pan, Scan, Privacy Mask, Schedule and More…

- Max. 127 Presets are assignable. All of them have independent characteristics such as White Balance, Auto Exposure, Label, Alarm Input/Output and so on.
- Max. 8 set of Auto Pan can be stored. This enables to move camera repetitively between two preset positions with designated speed.
- Max. 4 of Patterns can be recorded and played back. This enables to move camera to follow any trajectory operated by joystick as closely as possible.
- Max. 8 set of Scan action can be stored. This enables to move camera repetitively with combination of Preset or Pattern or Auto Pan. A Scan is composed of max. 20 entities of Preset/ Pattern/Auto Pans.
- Max 8 Privacy Masks can be set up to protect privacy of other people.
- 7 rules of Schedule can be assigned by day and time. Appropriate actions (such as Home, Preset, Scan, Pattern and Auto Pan) can be defined for each rule. Also, it is possible to use **Weekday** and **All days** to simplify the rule.

❖ PTZ(Pan/Tilt/Zoom) Control

- With RS-485 communication, max. 255 of cameras can be controlled at the same time.

❖ OSD(On Screen Display) Menu

- OSD menu is provided to display the status of camera and to configure the functions interactively.
- Currently, 7 Languages are supported for OSD Menu: [ENGLISH/ESPAÑOL/FRANÇAIS/ DEUTSCH/ITALIANO/РУССКИЙ/PORTUGUÊS]
- The information such as Camera ID, Pan/Tilt/Zoom/ Direction, Alarm Input & Output, date/time and Preset can be displayed on screen.
- Each display item can be turned on or off independently.

❖ Alarm I/O Functions

- 8 alarm sensor Inputs and 4 relay output are available.
- To reject external electric noise and shock perfectly, alarm sensor Input is decoupled with photo coupler.
- If an external sensor is activated, camera can be set to move to the corresponding Preset position.
- Relay outputs can be assigned to work with a certain preset.

❖ Reserved Presets for Special Purpose

- Most of camera settings are directly changed by calling Reserved Presets, not entering into OSD menu. For more information, refer to "**Reserved Preset**" (page 19) in this manual.

RECOMMENDED PC SPECIFICATIONS

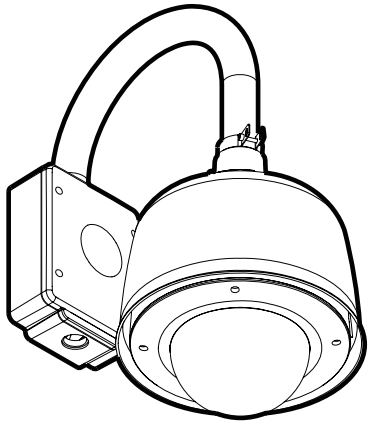
- CPU : Pentium4/2.4GHz or higher
- Operating System : Windows XP(Service Pack 2) / Windows Vista
- Resolution : 1024x768 pixels or higher
- RAM : 512MB or higher
- Web Browser : Internet Explorer 6.0 or higher
- Video Card : Radeon, Nvidia
- Video Memory : 128MB
- DirectX 8.1 or higher

COMPATIBLE IP ROUTERS

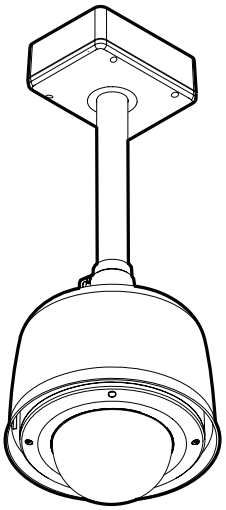
- Linksys
- D-Link
- Netgear

PRODUCT & ACCESSORIES

❖ Product

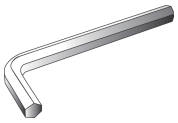
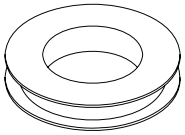
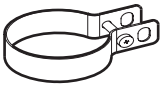
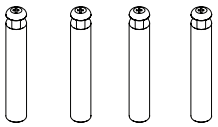
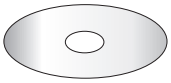
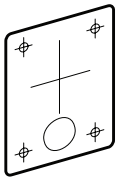
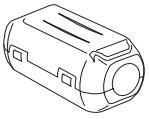


Wall Mount Type

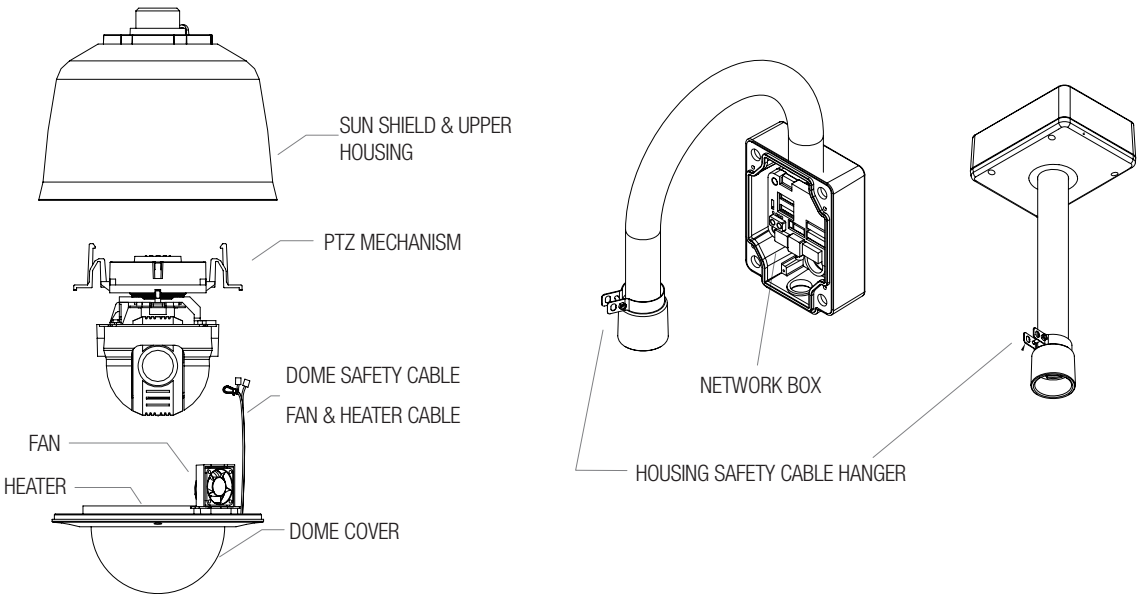


Ceiling Mount Type

❖ Accessories

			
Hexagonal wrench	Water proof tape	Housing Safety Cable Hanger	Screw & Plastic Anchor (4pcs)
			
User Manual / IP Installer CD	Quick Guide	Safety Cable	Hole Template
			
Cross Cable	Core Filter		

PARTS NAME & FUNCTIONS



- **Dome Cover**

  Do not detach protection vinyl from dome cover before finishing all installation process to protect dome cover from scratches or dust.

  In the dome cover, there are Fan and Heater to remove moisture.

- **Sunshield & Upper housing**

  Sunshield protect bubble dome cover from the sun rays and rain fall from. In the sunshield, there is the upper housing which will contain accommodate PTZ mechanism. Also, the upper housing will be connected to both mounting brackets and dome cover.

- **Wall/Ceiling mount Bracket**

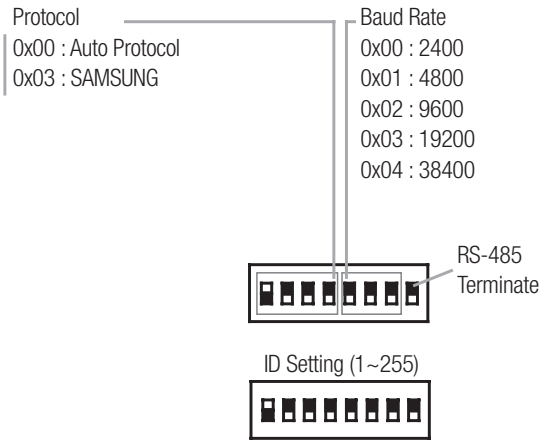
  These are used to install the camera on the wall or ceiling and have Network box in them.

- **Network Box**

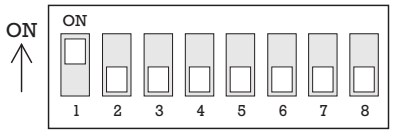
  The network box has many important roles of connection between Dome camera and outside. Top of Network box, there are dip switches and terminal blocks for Power supply, Audio In/Out, Video Output, RJ-45 Ethernet port, Alarm Input/output.

DIP SWITCH SETUP

Before you install the camera, you should set the DIP switches to configure the camera ID, Baud rate and communication protocol.



❖ Camera ID Setup

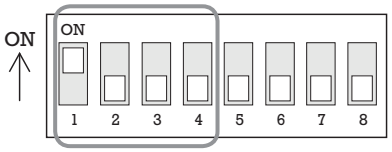


- ID number of camera is set using binary number. The example is shown bellow.

Pin	1	2	3	4	5	6	7	8
ID Value	1	2	4	8	16	32	64	128
ex) ID=5	ON	OFF	ON	OFF	OFF	OFF	OFF	OFF
ex) ID=10	OFF	ON	OFF	ON	OFF	OFF	OFF	OFF

- The range of ID is 0~255. Factory default of Camera ID is 1.
- If you want to control a certain camera, you must match the camera ID with Cam ID setting of DVR or Controller.

❖ Communication Protocol Setup

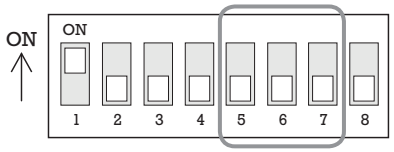


- Select the appropriate Protocol with DIP switch combination.

Switch State				Protocol
Pin1	Pin2	Pin3	Pin4	
OFF	OFF	OFF	OFF	Auto Protocol
ON	ON	OFF	OFF	SAMSUNG

- If you set the protocol as Auto Protocol, camera will automatically recognize the kind of Protocol.
- If you want to control using DVR or system keyboard, their protocol must be identical to camera. Otherwise, you can not control the camera.
- If you changed camera protocol by changing DIP S/W, the change will be effective after you reboot the camera.
- Factory default of protocol is "**Auto**" Protocol.

❖ Communication Baud rate Setup

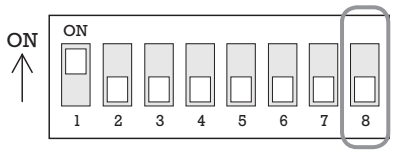


- Select the appropriate Baud rate with DIP switch combination.

Switch State			Protocol
Pin5	Pin6	Pin7	
OFF	OFF	OFF	2400 BPS
ON	OFF	OFF	4800 BPS
OFF	ON	OFF	9600 BPS
ON	ON	OFF	19200 BPS
OFF	OFF	ON	38400 BPS

- Factory default of Baud rate is "**9600 BPS**"

❖ **RS-485 Termination Resistor**

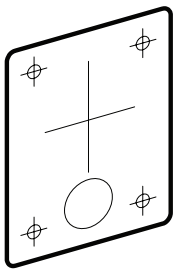


- Pin 8 is used for ON/OFF of RS-485 Termination. Normally, it must be OFF state. Especially when you have trouble with long Daisy chain style connection, turn ON this termination switch of last camera.

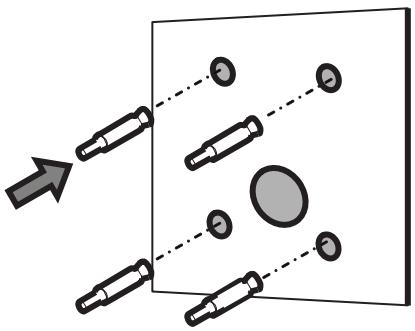
  – Pin 8 : RS-485 Termination Resistor (ON/OFF)

INSTALLATION USING POLE MOUNT BRACKET

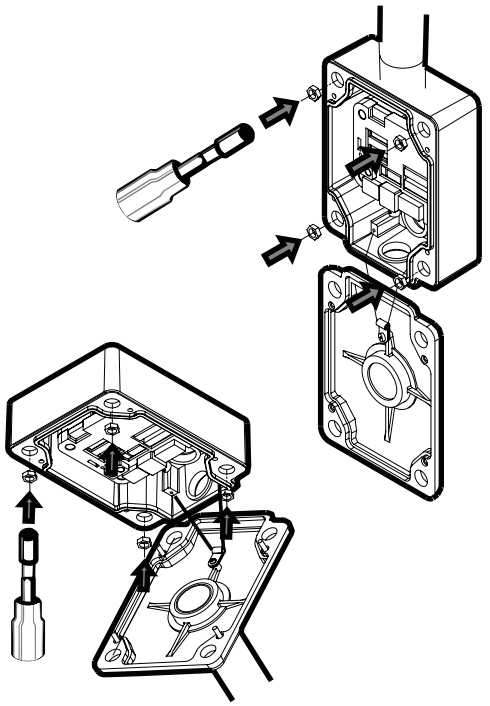
1. Using the paper template, mark the holes on the wall.



2. After drilling the holes, fix the four anchor bolts into the holes.

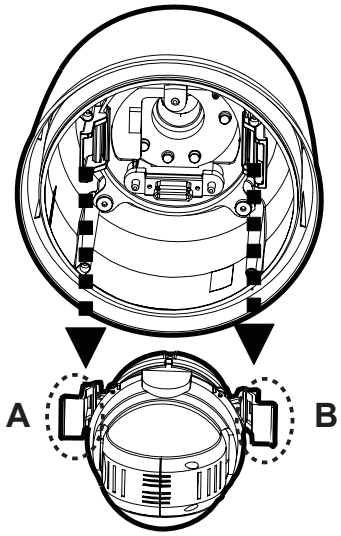


3. After locating the wall mount bracket on the anchor bolts properly. Tighten the nuts for anchor bolts

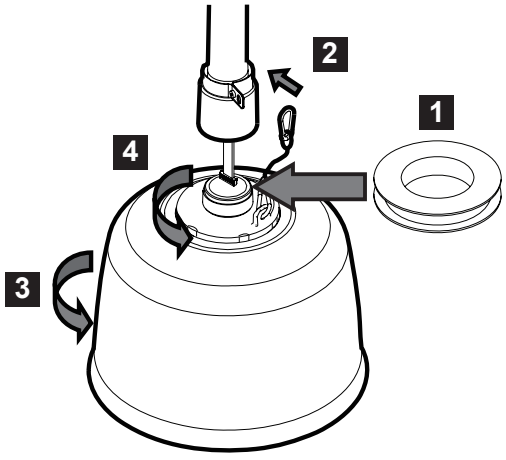


4. Connect cables to terminal blocks and BNC in the Network box. See the cabling in the next section.

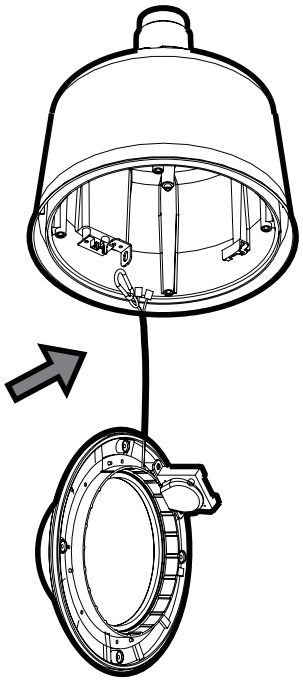
5. Press the PTZ mechanism's A, B handles and pull out for Main Cable connection.



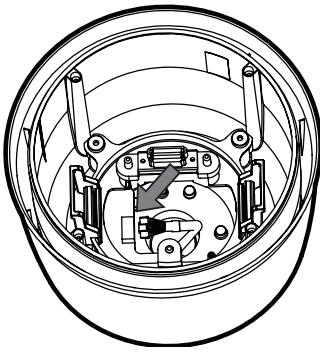
6. Wrap the pipe thread of the housing top by Water proof tape [**1**].
   After hooking the safety cable on the hole of pipe [**2**], attach the upper housing to mount bracket by turning it at least seven turns [**3**]. To fix the upper body orientation, turn the handle of double nuts to clockwise tightly [**4**].



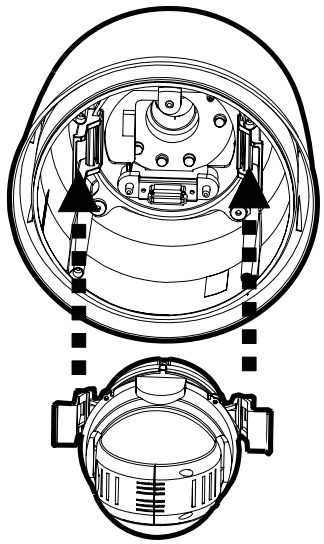
7. Care must be taken dome cover is hung by internal safety cable properly. Plug fan/heater cables into the connectors in the housing.



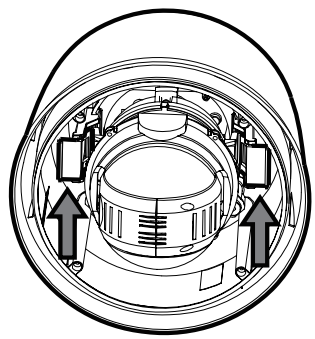
8. Plug the connector of cable from network box into properly.



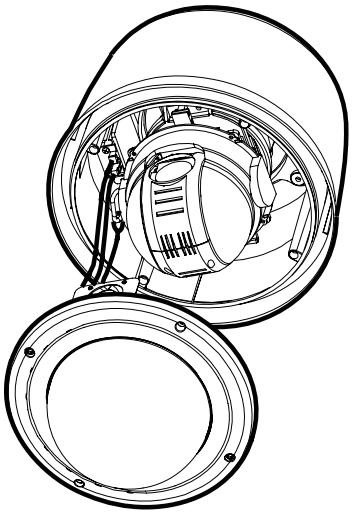
9. After checking the orientation of one touch connector in the upper housing, press the PTZ mechanism into hook in the upper housing.



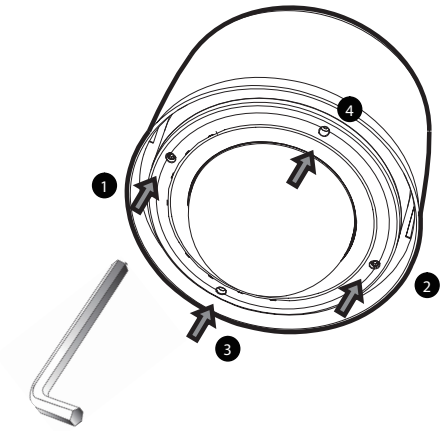
10. To lock the PTZ mechanism to the upper housing, press the two black handles till it sounds snap.



11. Close the dome cover. Care must be taken to locate dome cover by matching the "**Arrow**" mark.



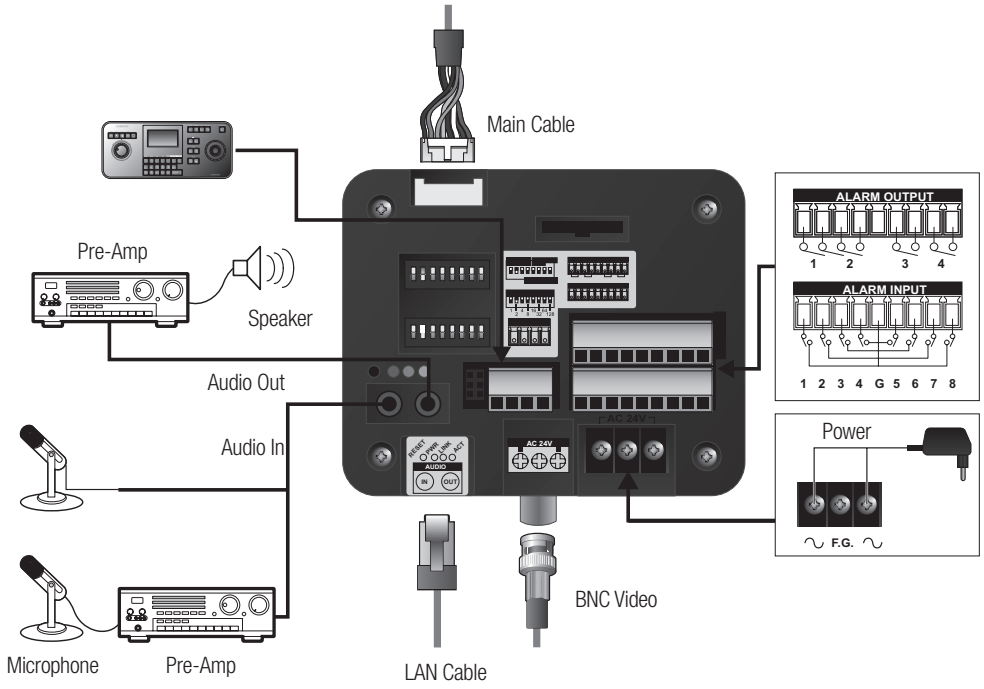
12. Tighten four screws on the dome cover in sequence as shown in the picture bellow.



- To maintain the best sealing, the torque of each screw must be in the range between 0.5 ~ 1.0 N·m (0.37 ~ 0.73 lbf·ft).

CABLING

❖ Power Connection

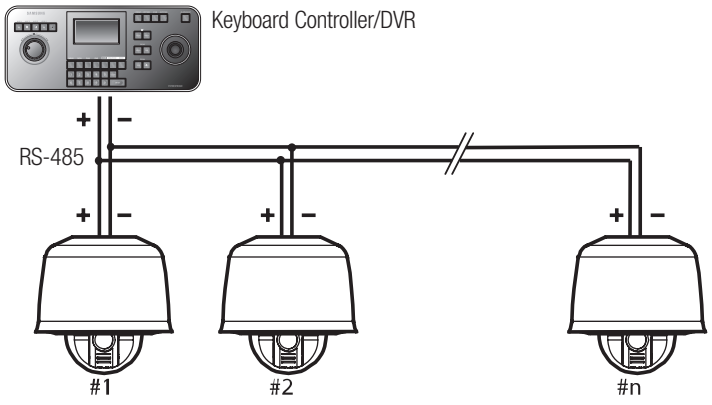


- Please, check the voltage and current capacity of rated power carefully.

Rated Power	Input Voltage Range	Current Consumption
AC 24V	AC 19V ~29V	23W(Heater Off) / 55W(Heater On)

❖ RS-485 Communication

- For PTZ control, connect this line to keyboard and DVR. To control multiple cameras at the same time, RS-485 communication lines of them is connected in parallel as shown below.



❖ Video Connection

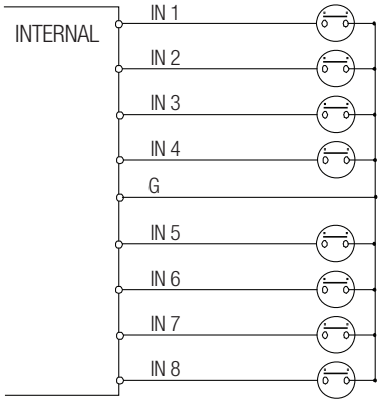
- Connect with BNC coaxial cable.

❖ Audio Input/Ouput Connection

1. Connect the AUDIO IN port of the camera with the microphone directly or LINE OUT port of the amplifier that the microphone is connected to direct Mic Connection: Set Audio Input Gain high (10). Refer to page 56 in this Manual.
   Line Out Connection: Set Audio Input Gain low (1). Refer to page 56 in this Manual.
2. Connect the AUDIO OUT port of the camera with the LINE IN port of the speaker.

   If the microphone is connected directly to AUDIO OUT terminal, the speaker will not produce sound. The MIC IN function is not supported.

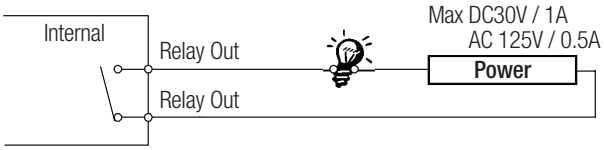
❖ Alarm Input Connection



- Sensor Input
  - It is noted that short circuit between G and Input pin means alarm activation.

If you want to use Alarm Input, the types of sensor must be selected in SETUP menu. Refer to "**ALARM INPUT SETUP**" (Page 62) in this Manual. The sensor types are Normal Open and Normal Close If sensor type is not selected properly, the alarm can be activated reversely.

- Relay Output

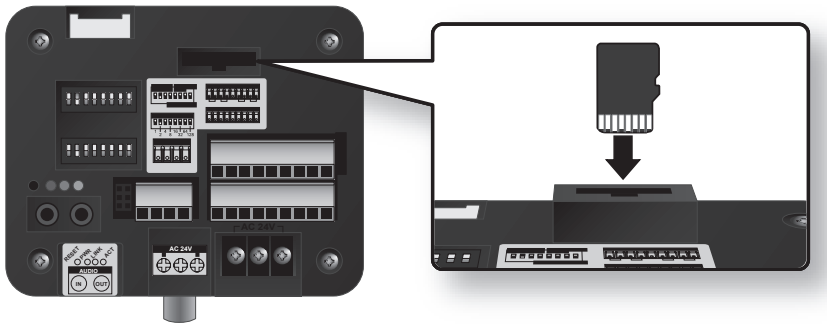


There are 4 Alarm Outputs and all of them are Relay contact type. Therefore, you do not have to care about polarity, AC/DC, and isolations between channels. Care must be taken for the power capacity of relay contact written above.

INSERTING/REMOVING AN MICRO SDHC MEMORY CARD

❖ Inserting an Micro SDHC Memory Card

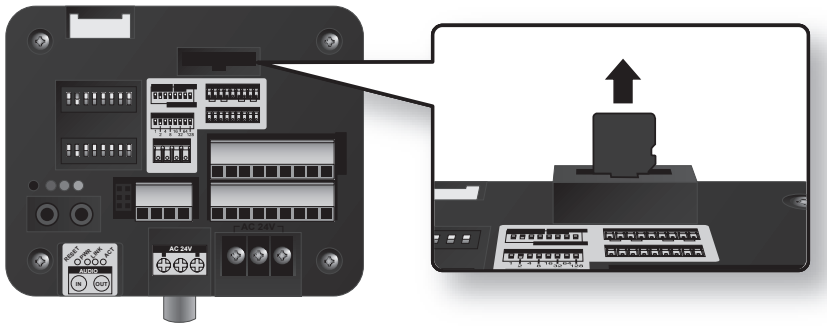
- Push the Micro SDHC memory card in the direction of the arrow shown in the diagram.



▪ Do not force the memory card in. If you can't insert the memory card into the slot with ease, you might be inserting the card in the wrong direction. Forcibly inserting a memory card could lead to its damage.

❖ Removing an Micro SDHC Memory Card

- Gently press down on the exposed end of the memory card as shown in the diagram to eject the memory card from the slot.



▪ Pressing too hard on the Micro SDHC memory card can cause the card to shoot out uncontrollably from the slot when released.

- When removing the Micro SDHC memory card, disable the SD Card Recording feature (refer to page 61 for instructions on disabling SD Card Recording).
  Removing the Micro SDHC memory card while recording is in progress can damage the data.

MEMORY CARD INFORMATION (NOT INCLUDED)

❖ What is a memory card?

The memory card is an external data storage device that has been developed to offer an entirely new way to record and share video, audio, and text data using digital devices.

❖ Selecting a memory card that's suitable for you

Your camera supports Micro SDHC memory cards.
You may, however, experience compatibility issues depending on the model and make of the memory card.

Your camera supports Micro SD memory cards.
However, the maximum supported Micro SD memory card capacity is 2GB and ver 1.1, 4GB or above SD memory cards are incompatible.

For your camera, we recommend you use a memory card from the following manufacturers:
Micro SDHC/SD Memory Card: Kingston®, Panasonic®, SanDisk®, and Toshiba®

Your camera supports 128MB to 8GB of memory card capacity.
Playback performance can be affected depending on the speed of memory card, so use the high-speed memory card. To ensure proper recording of video data, we recommend you use a memory card that supports at least read/write speed 10Mbps and Class 6.

CHECK POINTS BEFORE OPERATION

- Before power is applied, please check the cables carefully.
- The camera ID of the controller must be identical to that of the camera to be controlled. The camera ID can be checked in the System Information of OSD Menu.
- If your controller supports multi-protocols, the protocol must be changed to match to that of the camera.
- If you changed camera protocol by changing DIP switch, the change will be effective after you reboot the camera.
- Since the operation method can be different for each controller available, refer to the manual for your controller if camera can not be controlled properly.

PRESET AND PATTERN FUNCTION PRE-CHECK

- Check how to operate Preset, Scan, Auto Pan and Pattern function with controller or DVR in advance to operate camera function using them. (refer to your System keyboard Manual)
- If controller or DVR has no pattern button or function, use shortcut keys with preset numbers. For more information, refer to "**Reserved Preset**" in this manual.

AUTO CALIBRATION

- If the camera is continuously subjected to very high temperature (over 50°C or 122°F) environment for a long time, it is possible for the camera to lose focus. As a result, you will get blurry image. In this case, it is recommended to turn on "**Auto Calibration**" by running Preset 165.
- If you execute AUTO CALIBRATION, camera will calibrate its focus at every 6 hours. To turn off this function, please, run Preset 166.

STARTING OSD MENU

- Function

  Using the OSD menu, Preset, Pattern, Auto Pan, Scan and Alarm Input function can be configured for each application.
- Enter Menu

  <Go Preset> [95]

RESERVED PRESET

- Description

  Some Preset numbers are reserved to special functions.
- Function

<Go Preset> [95]	: Enters into OSD menu
<Go Preset> [131~134]	: Runs Pattern Function 1~4
<Go Preset> [141~148]	: Runs Auto Pan Function 1~8
<Go Preset> [151~158]	: Runs Scan Function 1~8
<Go Preset> [161~164]	: Sets Relay 1~4 Output to OFF
<Set Preset> [161~164]	: Sets Relay 1~4 Output to ON
<Go Preset> [165]	: Auto Calibration ON.
<Go Preset> [166]	: Auto Calibration OFF.
<Go Preset> [167]	: Zoom Proportional Jog ON
<Set Preset>[167]	: Zoom Proportional Jog OFF
<Go Preset> [170]	: Sets Camera BLC Mode to OFF
<Go Preset> [171]	: Sets Camera BLC Mode to HIGH
<Go Preset> [174]	: Sets Camera Focus Mode to AUTO
<Go Preset> [175]	: Sets Camera Focus Mode to Manual
<Go Preset> [176]	: Sets Camera Focus Mode to SEMI-AUTO
<Go Preset> [177]	: Sets Day & Night Mode to AUTO1
<Go Preset> [178]	: Sets Day & Night Mode to NIGHT
<Go Preset> [179]	: Sets Day & Night Mode to DAY
<Go Preset> [190]	: Sets OSD Display Mode to AUTO (Except Privacy Mask)
<Go Preset> [191]	: Sets OSD Display Mode to OFF (Except Privacy Mask)
<Go Preset> [192]	: Setting OSD Display Mode to ON (Except Privacy Mask)
<Go Preset> [193]	: Sets all Privacy Mask Display to OFF
<Go Preset> [194]	: Sets all Privacy Mask Display to ON
<Go Preset>[200]	: Digital Zoom ON
<Go Preset>[201]	: Digital Zoom OFF

PRESET

- Function

  Max. 127 positions can be stored as Preset position. The Preset number can be assigned from 1 to 128, but 95 is reserved for starting OSD menu.

  Camera characteristics (i.e. White Balance, Auto Exposure) can be set up independently for each preset and they are adjusted by using OSD menu. Four relay outputs can be reacted in conjunction with one Preset.
- Set Preset

  <Set Preset> [1~128]
- Run Preset

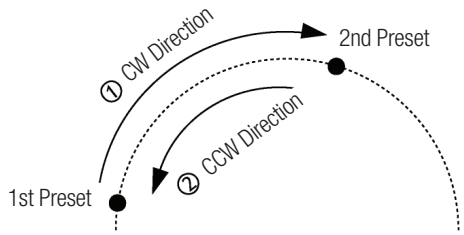
  <Go Preset> [1~128]
- Delete Preset

  To delete Preset, use OSD menu.

AUTO PAN

- Function

  By using Auto Pan function, you can make camera to move between 2 Preset positions repeatedly. When Auto Pan function runs, camera moves from the preset assigned as the 1st point to the preset assigned as the 2nd point in CW(Clockwise) direction. Then camera moves from the preset assigned as the 2nd point to the preset assigned as the 1st point in CCW(Counterclockwise) direction.



  In case that the preset assigned as the 1st point is same as the preset assigned as the 2nd point, camera turns on its axis by 360° in CW(Clockwise) direction and then it turns on its axis by 360° in CCW(Counterclockwise) direction.

  Speed can be set up from 1°/sec to 180°/sec.
- Set Auto Pan

  To set Auto Pan, use OSD menu.
- Run Auto Pan

  Method1) <Run Auto Pan> [Auto Pan NO.]
  ex) Run Auto Pan 2 : <Run Auto Pan> [2]

  Method2) <Go Preset> [Auto Pan NO.+140]
  ex) Run Auto Pan 2 : <Go Preset> [142]
- Delete Auto Pan

  To delete Auto Pan, use OSD menu.

PATTERN

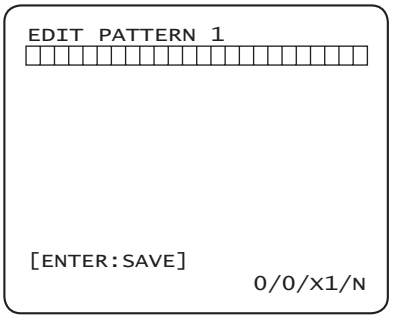
- Function

  Pattern Function is that a camera memorizes the path (mostly curve path) by joystick of controller for assigned time and revives the path exactly as it memorized.

  4 Patterns are available and Maximum 1000 communication commands can be stored in a pattern.
- Set Pattern

  Pattern can be created by one of following two methods.

  Method 1) <Set Pattern> [Pattern NO.]
  - Pattern editing screen is displayed as bellow.



  - Movement by Joystick and preset movement can be memorized in a pattern.
  - The rest memory size is displayed in progress bar.
  - To save the recording, press **ENTER** key .

  Method 2) OSD Using OSD Menu: See the section "**How to use OSD Menu**".
- Run Pattern

  Method 1) <Run Pattern> [Pattern NO.]
  ex) Run Pattern 2 : <Run Pattern> [2]

  Method 2) <Go Preset> [Pattern NO.+130]
  ex) Run Pattern 2: <Go Preset> [132]
- Delete Pattern

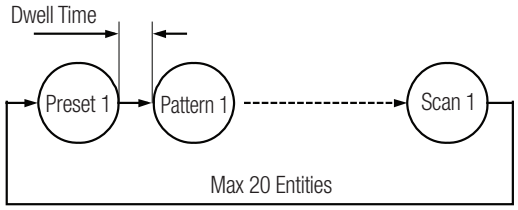
  Use OSD menu to delete a Pattern.

  ■ When the PATTERN is saved/executed, the PAN/TILT is operated with D-FLIP OFF.

SCAN

- Function

  The Scan function allows running sequence of Presets, Pattern and/or Auto Pans. Max 8 Scan can be stored. Each Scan can have max 20 action entities which can be preset, pattern or Auto Pan. Preset speed can be set up and the repeat number of Pattern & Auto Pan can be set up in Scan setup. Dwell time between actions can be set up also.



- Set Scan

  Use OSD Menu to create a Scan.

- Run Scan

  Method1) <Run Scan> [Scan NO]
  ex) Run Scan 2 : <Run Scan> [2]

  Method2) <Go Preset> [Scan NO.+150]
  ex) Run Scan 7 : <Go Preset> [157]

- Delete Scan

  Use OSD Menu to delete.

SCHEDULE

- Function

  The Schedule function allows running an appropriate function like Preset, Auto Pan, Scan, Pattern, Home move at designated day and time. For example, if you setup a rule Tuesday at 9:00AM and Preset 1 (say Main Gate), the camera will move to main gate every Tuesday at 9:00AM. If you choose Weekday, camera will move to Main gate everyday except weekend.

  It is noted that due to the real time clock, the time data will be kept regardless of blackout. The initial time and day setup is essential to proper Schedule function.

- Set Schedule

  Use OSD Menu to create a Schedule.

- Run Schedule

  Use OSD Menu of Schedule Master Enable.

- Delete Schedule

  Use OSD Menu to delete.

OTHER FUNCTIONS

- Preset Lock

  This function is made to protect preset data from unauthorized overwriting. If Preset Lock is ON, Preset save command using Hot Key is disabled while Preset save using OSD Menu is acceptable.

- Power Up Action

  This function enables to resume the last action executed before power down. Most of actions such as Preset, Pattern, Auto Pan and Scan are available for this function but Jog actions are not available to resume.
  if there are no setup for those functions like Preset, Pattern, Auto Pan and Scan, Camera will automatically move to Home position after rebooting.If Power Up Action is set to be ON, camera will continue the function which is executed lastly after rebooting.

- D-Flip

  In case that tilt angle arrives at the top of tilt orbit (90°), zoom module camera keep moving to opposite tilt direction (180°) to keep tracing targets. As soon as zoom module camera passes through the top of tilt direction (90°), images should be reversed automatically and F appears in screen. If this function is set to OFF, tilt movement range is 0 ~ 90°.

- Parking Action

  This function enables to locate the camera to specific position automatically if operator doesn't operate the controller for a while. The Park Time can be defined as an interval from 5 seconds to 4 hours.

- Alarm Input

  8 Alarm Inputs are used. If an external sensor is activated, camera can be set to move to corresponding preset position. It is noted that the latest alarm input is effective if multiple sensors are activated.

- Alarm Output

  There are 4 Ch. of Alarm Outputs and all of them can be assigned to a certain Preset number. For example, if you assign Preset 5 to AO2, calling Preset 5 result in turning On of AO2.

- Privacy Zone Mask

  To protect privacy, Max. 8 Privacy Masks can be created on the arbitrary position to hide objects such as windows, shops or private house. With Spherical Coordinates system, powerful Privacy Zone Mask function is possible.

- GENERAL/SPECIAL Image Setup

  WB (White Balance) and AE (Auto Exposure) can be set up independently for each preset. There are 2 modes, "**General**" mode & "**Special**" mode. The General mode means that WB or AE can be set up totally and simultaneously for all presets in "**CAMERA SETUP**" menu. The Special mode means that WB or AE can be set up independently or separately for each preset in each preset setup menu. Each Special WB/AE value should activate correspondingly when camera arrives at each preset location.

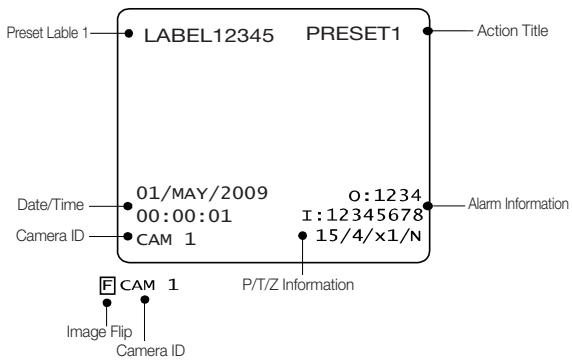
  During jog operation, General WB/AE value should be applied. All Special WB/AE value will not be changed although General WB/AE value change.

- ONEAF Focus

  This mode exchanges focus mode automatically between Manual Focus mode and Auto Focus mode by operation. Manual Focus mode activates in preset operation and Auto Focus mode activates during jog operation. With Manual mode at presets, Focus data is memorized in each preset in advance and camera calls focus data in correspondence with presets as soon as camera arrives at a preset. It should shorten time to get focuses.

  Focus mode changes to Auto Focus mode automatically when jog operation starts.

OSD DISPLAY OF MAIN SCREEN



- P/T/Z Information

  Current Pan/Tilt angle in degree, zoom magnification and a compass direction.

- Camera ID

  Current Camera ID (Address).

- Action Title

  Followings are possible Action Titles and their meaning.

"SET PRESET ×××"	When Preset ××× is stored
"PRESET ×××"	When camera reach to Preset ×××
"PATTERN ×"	When Pattern × is in action
"AUPx/PRESET XXX"	When Auto Pan x is in action
"UNDEFINED"	When undefined function is called to run

- Preset Label

  The Label stored for specific Preset.

- Alarm Information

  This information shows current state of Alarm Input. The "I" means Input and "O" is output. If an Input is ON state it will show the number of input. If an Input is OFF state, '-' will be displayed. In the same way "O :1" means output 1 is ON "O :-" is OFF.

  ex) When Point 2 of inputs are ON, and Output 1 is On, OSD will show as below

```
     O:1---
I:-2------
```

- Image Flip

  Shows that images are currently reversed by D-Flip Function.

- Date/Time

  Displays Current Date and Time.

GENERAL RULES OF KEY OPERATION FOR MENU

- The menu items surrounded with < > always has its sub menu.
- For all menu level, to go into sub menu, press **ENTER** key.
- To go to up-one-level menu, select **BACK** button.
- To move from items to item in the menu, use joystick in the **Up/Down** or **Left/Right**.
- To change a value of an item, use **Up/Down** of the joystick in the controller.
- Press **ENTER** key to save values.

STRUCTURE OF THE SETUP MENU

- **SYSTEM INFORMATION**
  - SNC-C7478_v1.XX_XXXXXX
  - COLOR SYSTEM → NTSC/PAL
  - PROTOCOL → AUTO/SAMSUNG
  - BAUD RATE → 4800/9600/19200/38400
  - ADDRESS → 1~255
  - MAC → XX:XX:XX:XX:XX:XX
- **DISPLAY SETUP**
  - CAMERA ID → ON/OFF
  - PTZ INFORMATION → AUTO/OFF/ON
  - ACTION TITLE → AUTO/OFF/ON
  - PRESET LABEL → AUTO/OFF/ON
  - ALARM I/O → AUTO/OFF/ON
  - DATE/TIME → ON/OFF
  - <PRIVACY ZONE>
    - MASK NO. → 1~8
    - DISPLAY → ON/OFF
    - CLEAR → OK/CANCEL
    - <EDIT MASK> → …
- **MOTION SETUP**
  - PRESET LOCK → OFF/ON
  - PWR UP ACTION → ON/OFF
  - D-FLIP → ON/OFF
  - JOG MAX SPEED → 2~200/SEC
  - JOG DIRECTION → INVERSE/NORMAL
  - IMAGE HOLD → OFF/ON
  - <PARKING ACTION SETUP>
    - PARK ENABLE → OFF/ON
    - WAIT TIME → 00:00:05~04:00:00
    - PARK ACTION → HOME/PRESET1~128 / SCAN1~8/PATTERN1~4/APAN1~8
- **FUNCTION SETUP**
  - PRESET SETUP
    - PRESET NO. → 1~128
    - <EDIT SCENE> → …
    - <LABEL> → …
    - CLR PRESET → CANCEL/OK
    - CAM ADJUST
      - GENERAL
      - <SPECIAL>
        - <WHITE BALANCE SETUP>
        - <AUTO EXPOSURE SETUP>
    - ALARM OUT → OFF/ON
  - AUTO PAN SETUP
    - APAN NO. → 1~8
    - 1ST POS. → NOT USED/PRESET1~128
    - 2ND POS. → NOT USED/PRESET1~128
    - APAN SPEED → 1~180/SEC
    - CLEAR APAN → CANCEL/OK
  - PATTERN SETUP
    - PATTERN NO. → 1~4
    - CLEAR PATTERN → CANCEL/OK
    - <EDIT PATTERN> → …
  - SCAN SETUP
    - SCAN NO. → 1~8
    - CLEAR SCAN → CANCEL/OK
    - <EDIT SCAN> → …
  - SCHEDULE SETUP
    - …

how to use osd menu

- **CAMERA SETUP**
  - FOCUS MODE → AUTO/ONEAF/MANUAL
  - DIGITAL ZOOM → ON/OFF
  - IMAGE FLIP → OFF/ON
  - FLICKERLESS → OFF/ON
  - WHITE BALANCE SETUP
    - WB MODE → AUTO/MANUAL
    - RED ADJUST → 0 ~ 255
    - BLUE ADJUST → 0 ~ 255
  - AUTO EXPOSURE SETUP
    - WDR/BLC → ALLOFF/WDR ON/BLC ON
    - DAY/NIGHT → AUTO1/AUTO2/DAY/NIGHT
    - AE MODE → AUTO/MANUAL/IRIS/SHUTTER/ BRIGHT
    - * IRIS LEVEL → CLOSE~F1.6
    - * GAIN LEVEL → -3~+28dB
    - * SHUTTER SPD → 1/60~1/10000
    - * BRIGHTNESS → 0~31

- **SYSTEM SETUP**
  - <RELAY TYPE>
    - RELAY 1 → NORMAL OPEN / NORMAL CLOSE
    - RELAY 2 → NORMAL OPEN / NORMAL CLOSE
    - RELAY 3 → NORMAL OPEN / NORMAL CLOSE
    - RELAY 4 → NORMAL OPEN / NORMAL CLOSE
  - <PASSWORD> → …
  - <SET HOME POSITION> → …
  - <SET NORTH DIRECTION> → …
  - LANGUAGE → ENGLISH/ ESPAÑOL/ FRANÇAIS/ DEUTSCH/ ITALIANO/ РУССКИЙ/ PORTUGUÊS

- **SYSTEM INITIALIZE**
  - CLEAR ALL DATA → NO/YES
  - * CLR DISPLAY SET → NO/YES
  - * CLR CAMERA SET → NO/YES
  - * CLR MOTION SET → NO/YES
  - * CLR FUNCTION SET → NO/YES
  - REBOOT CAMERA → NO/YES
  - REBOOT SYSTEM → NO/YES

MAIN MENU

```
ROOT MENU
--------------------------
→<SYSTEM INFORMATION>
  <DISPLAY SETUP>
  <MOTION SETUP>
  <FUNCTION SETUP>
  <CAMERA SETUP>
  <SYSTEM SETUP>
  <SYSTEM INITIALIZE>

  EXIT
```

- SYSTEM INFORMATION
  Shows info and current configuration.
- DISPLAY SETUP
  Enable/Disable of OSD display on Main Screen.
- MOTION SETUP
  Setup for motion related settings.
- FUNCTION SETUP
  Setup for various functions such as Preset, Auto Pan, Pattern, Scan and Schedule.
- CAMERA SETUP
  Configure Camera related functions and data.
- SYSTEM SETUP
  Configure for Basic system setup.
- SYSTEM INITIALIZE
  Initializes system configuration and sets all data to factory default configuration.

SYSTEM INFORMATION

```
SYSTEM INFORMATION
--------------------------
  SNC-C7478_v1.XX_XXXXXX
  COLOR SYSTEM      NTSC
  PROTOCOL          AUTO
  BAUD RATE         9600
  ADDRESS           1
  MAC      00:0D:F1:30:00:00

→BACK
  EXIT
```

- SNC-C7478_v1.XX_XXXXXX
  Shows current firmware version of camera.
- COLOR SYSTEM
  Shows current analog video system of the camera
- PROTOCOL
  Shows current Protocol for PTZ control
- BAUD RATE Shows current Baud rate of PTZ control.
- ADDRESS Shows current Camera ID for PTZ control.
- MAC Shows current Mac address.

DISPLAY SETUP

```
DISPLAY SETUP
--------------------------
→CAMERA ID          ON
  PTZ INFORMATION   AUTO
  ACTION TITLE      AUTO
  PRESET LABEL      AUTO
  ALARM I/O         AUTO
  DATE/TIME         ON
  <PRIVACY ZONE>
  BACK
  EXIT
```

This menu defines Enable/Disable of OSD display on Main Screen. If an item is set to be AUTO, the item is displayed only when the value of it is changed.

- CAMERA ID [ON/OFF]
- PTZ INFORMATION [ON/OFF/AUTO]
- ACTION TITLE [ON/OFF/AUTO]
- PRESET LABEL [ON/OFF/AUTO]
- ALARM I/O [ON/OFF/AUTO]
- DATE/TIME [ON/OFF]
- <PRIVACY ZONE> Start Privacy Zone Mask setup Menu.

PRIVACY ZONE MASK SETUP

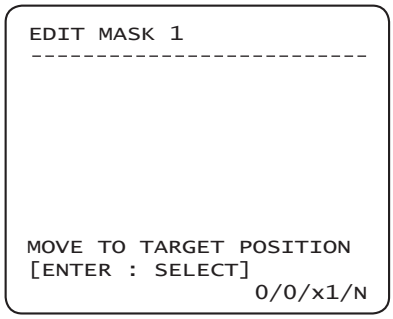
Select area in image to mask.

```
PRIVACY ZONE
--------------------------
→MASK NO.         1
                  UNDEFINED
  DISPLAY         OFF
  CLEAR           CANCEL
  <EDIT MASK>



  BACK
  EXIT
```

- MASK NO. [1~8]
  Select Mask number. If the selected mask has already data, camera moves as it was set.
  Otherwise, "**UNDEFINED**" will be displayed under "**MASK NO.**".

- DISPLAY [ON/OFF]
  Sets if camera makes mask shows or not on images.
- CLEAR [CANCEL/OK]
  Deletes data in the selected mask NO.

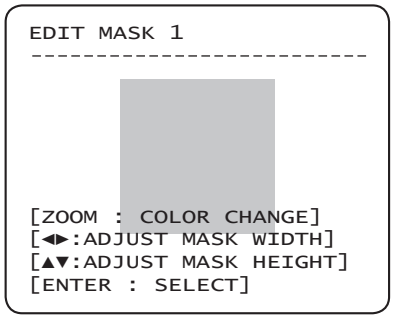
❖ Privacy Zone Area Setup



Move camera to area to mask. Then the menu to adjust mask size will be displayed.

- If the tilt angle is located in the range between 70° to 90°, you can not set up privacy zone mask.
- If tilt angle over 90° (image flipped region) is designated, camera will automatically move to identical poison by changing tilt angle less than 90° and moving pan angle 180° relatively.

❖ Privacy Zone Size Adjustment

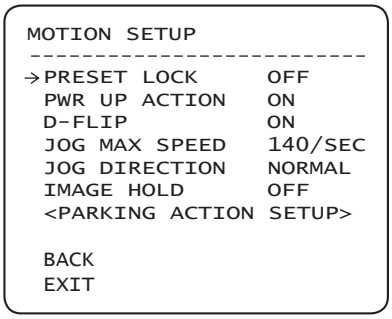


Adjust mask size. Use joystick or arrow buttons to adjust mask size.

- ◄► (Left/Right) Adjusts mask width.
- ▲▼ (Up/Down) Adjusts mask height.
- ZOOM In/Out Change Color of mask.

- To hide a certain zone completely regardless of high speed PT motions, it is recommended that the size of mask must be 20% bigger than original target size.
- It is noted that during PAN/TILT control like jog action, the object behind the privacy mask can be disclosed in a short period of time.

MOTION SETUP



Setup the general functions of Pan/Tilt motions.

- PRESET LOCK [ON/OFF]
  If Preset Lock is set to ON, it is impossible to set up and delete Preset. It is possible only to run those functions. To set up and delete those functions, enter into OSD menu.
- PWR UP ACTION [ON/OFF]
  Refer to “Other Functions”(page 21) section.
- D-FLIP [ON/OFF]
  Refer to “Other Functions”(page 21) section.
- JOG MAX SPEED [2°/sec ~200°/sec]
  Sets maximum jog speed. Jog speed is inversely proportional to ratio of zoom. As zoom magnification goes up, pan/tilt speed goes down.
- JOG DIRECTION [INVERSE/NORMAL]
  If you set this to ‘Normal’, the view in the screen is moving same direction with jog tilting. If ‘Inverse’ is selected, the view in the screen is moving reversely.
- IMAGE HOLD [ON/OFF]
  At start point of preset movement, camera starts freezing the image of start point. Camera keeps displaying the image of start point during preset movement and does not display the images which camera gets during preset movement. As soon as camera stops at preset end point, camera starts displaying live images which it gets at preset end point.

❖ Parking Action Setup

```
PARKING ACTION SETUP
-------------------------
→PARK ENABLE    OFF
 WAIT TIME      00:10:00
 PARK ACTION    HOME




 BACK
 EXIT
```

If Park Enable is set to ON, camera runs assigned function automatically if there is no PTZ command during assigned "**WAIT TIME**".

- PARK ENABLE [ON/OFF]
- WAIT TIME [5 sec ~ 4 hour]

  The time is displayed with "hh:mm:ss" format and you can change this by 1 sec unit.
- PARK ACTION

  [HOME/PRESET/PATTERN/AUTOPAN/SCAN]

  ex) If HOME is selected for Park Action, camera will move to home position when there is no PTZ command during assigned "**WAIT TIME**".

FUNCTION SETUP

```
FUNCTION SETUP
-------------------------
→<PRESET SETUP>
 <AUTO PAN SETUP>
 <PATTERN SETUP>
 <SCAN SETUP>
 <SCHEDULE SETUP>



 BACK
 EXIT
```

Configure 5 Special Functions with this menu.

- PRESET SETUP

  127 Presets from the number 1 to 128 can be assigned excluding preset 95 reserved for Menu.
- AUTO PAN SETUP

  Up to 8 Auto Pans are available, which makes camera to move slowly between two preset points.
- PATTERN SETUP

  Up to 4 patterns can be stored in the dome.

  In this function, path data created by manual move of Joystick are recorded and you can playback the identical path automatically whenever required.
- SCAN SETUP

  Up to 8 Scans can be defined.

  In a Scan, max 20 entities are assigned from any combinations of Preset/Auto Pan/Pattern. If you run a Scan, camera will execute each entry sequentially.
- SCHEDULE SETUP

  7 rules of Schedule can be assigned by day and time. Appropriate actions (such as Home, Preset, Auto Pan, Pattern and Scan) can be defined for each rule. Also, it is possible to use Weekday and Weekend in a rule to make it simple.

PRESET SETUP

```
PRESET SETUP
-------------------------
→PRESET NO.      1

 <EDIT SCENE>
 <LABEL>
 CLR PRESET      CANCEL
 CAM ADJUST      GENERAL
 ALARM OUT       ----

 BACK
 EXIT
```

- PRESET NO. [1~128]

  If a selected preset is already defined, camera moves to pre-defined position and preset characteristics such as Label and Relay Outputs show on monitor. If a selected preset is not defined, "**UNDEFINED**" shows on monitor.
- EDIT PRESET SCENE

  Redefine current Preset scene position (i.e. PTZ).
- EDIT PRESET LABEL

  Edits Label to show on monitor when preset runs. Max. 10 alphabets are allowed.
- CLR PRESET [CANCEL/OK]

  Delete current Preset data
- CAM ADJUST [GENERAL/SPECIAL]

  WB(White Balance) and AE(Auto Exposure) can be set up independently for each preset. There are 2 modes, "**GENERAL**" mode & "**SPECIAL**" mode. The General mode means that WB or AE can be set up totally and simultaneously for all presets in "**CAMERA SETUP**" menu.

  The Special mode means that WB or AE can be set up independently or separately for each preset in each preset setup menu. Each Special WB/AE value should activate correspondingly when camera arrives at each preset location. During jog operation, General WB/AE value should be applied.

  All Special WB/AE value should not change although General WB/AE value changes. If "**SPECIAL**" is selected, Menu to set WB/AE shows on monitor.
- ALARM OUT

  State of four alarm outputs can be freely controlled in conjunction with Preset run. The character "**-**" means OFF state and the number representing each bit means ON.

  ex) If it is set to be -23-, Output relay 2, 3 will be ON and 1, 4 will be OFF, when you run this Preset.

❖ Edit Preset Scene

```
EDIT SCENE - PRESET 1
-------------------------




MOVE TO TARGET POSITION
[ENTER : SELECT]
                    0/0/x1/N
```

① Using joystick, move camera to desired position.

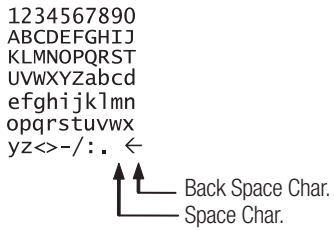
② By pressing **ENTER** key, save current **PTZ** data.

❖ Edit Preset Label

```
LABEL - PRESET 1
-------------------------
 [                ]
  ----------
  1234567890    OK
  ABCDEFGHIJ    CANCEL
  KLMNOPQRST
  UVWXYZabcd
  efghijklmn
  opqrstuvwx
  yz<>-/:.←
```

① Edits label to show on monitor when camera arrives at presets. In Edit Label menu, a reverse rectangular is cursor. As soon as finishing selecting alphabet, cursor moves to the next digit.

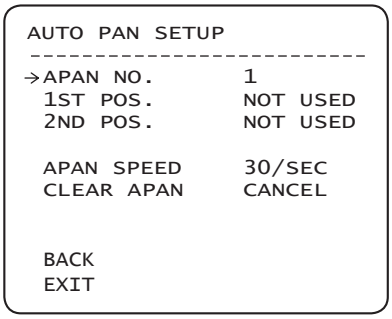
② Using **Left/Right/Up/Down** of joystick, move to an appropriate character from the Character set. To choose that character, press the **ENTER** key.



If you want to use blank, choose Space character (" "). If you want to delete a character before, use back space character ("←").

③ If you complete the Label editing, move cursor to "**OK**" and press **ENTER** key to save completed label. To abort current change, move cursor to "**CANCEL**" and press **ENTER** key.

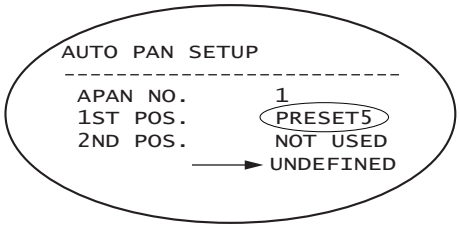
AUTO PAN SETUP



- APAN NO. [1~8]

  Selects Auto Pan number to edit. If a selected Auto Pan has not defined, "**NOT USED**" is displayed in 1st Position and 2nd Position
- 1ST POS. / 2ND POS. [PRESET 1~128]

  Set up the 2 position for Auto Pan function. If a selected preset is not defined, "**UNDEFINED**" will be displayed as shown below.



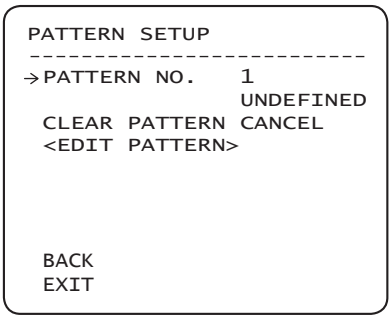
When Auto Pan function runs, camera moves from the preset assigned as the 1st point to the preset assigned as the 2nd point in CW(Clockwise) direction. Then camera moves from the preset assigned as the 2nd point to the preset assigned as the 1st point in CCW(Counterclockwise) direction. In case that the preset assigned as the 1st point is same as the preset assigned as the 2nd point, camera turns on its axis by 360° in CW direction and then it turns on its axis by 360° in CCW direction.

- APAN SPEED [1°/sec ~180°/sec]

  Sets Auto Pan speed from 1°/sec to 180°/sec.
- CLEAR APAN [CANCEL/OK]

  Deletes current Auto Pan data.

PATTERN SETUP



- PATTERN NO. [1~4]

  Selects Pattern number to edit.

  If a selected pattern number is not defined, "**UNDEFINED**" will be displayed under selected pattern number.
- CLEAR PATTERN [CANCEL/OK]

  Deletes data in current pattern
- EDIT PATTERN

  Starts editing pattern.

❖ Edit Pattern

① By using Joystick, move to start position with appropriate zoom. To start pattern recording, press **ENTER** key.

```
EDIT PATTERN 1
-------------------------




MOVE TO START POSITION
[ENTER : START]
                  0/0/x1/N
```

② Use Pan/Tilt/Zoom to specify the Pattern Start point and press Enter. If you run a pattern to save, the route of the pattern will be recorded. The total memory size and the rest memory size is displayed in the form of bar. Maximum 1,000 communication commands can be stored in a pattern.

```
EDIT PATTERN 1
[                        ]




[ENTER : SAVE]
                  0/0/x1/N
```

③ To save data and exit, press **ENTER** key.

SCAN SETUP

```
SCAN SETUP
-------------------------
→SCAN NO.        1
                 UNDEFINED
 CLEAR SCAN      CANCEL
 <EDIT SCAN>




 BACK
 EXIT
```

- SCAN NO. [1~8]
  Selects Scan number to edit.
  If a selected Scan number is not defined, "**UNDEFINED**" will be displayed under selected Scan number.
- CLEAR SCAN [CANCEL/OK]
  Deletes data in current Scan
- EDIT SCAN Starts editing Scan.

❖ Edit Scan

① Press **ENTER** key in "**NO**" list to start Scan setup.

```
EDIT SCAN      1
-------------------------
→NO. ACTION NO. DWELL OPT
-------------------------
  1 NONE
  2 NONE
  3 NONE
  4 NONE
  5 NONE
-------------------------
 SAVE
 CANCEL          [ENTER : EDIT]
```

② Note that Max. 20 Functions are allowed in a Scan. Move cursor up/down and press **ENTER** key to set up.

```
EDIT SCAN      1
-------------------------
 NO. ACTION NO. DWELL OPT
-------------------------
→ 1 NONE
  2 NONE
  3 NONE
  4 NONE
  5 NONE
-------------------------
 SAVE   [ENTER : EDIT ACT]
 CANCEL [LEFT  : EDIT END]
```

③ Set up Action, Dwell time and Option. Note that selected item is displayed in reverse. Move cursor **Left/Right** to select items and move cursor **Up/Down** to change each value.

```
EDIT SCAN      1
-------------------------
 NO. ACTION NO. DWELL OPT
-------------------------
→ 1 [NONE]
  2 NONE
  3 NONE
  4 NONE
  5 NONE
-------------------------
 SAVE      [◄►:MOVE CURSOR]
 CANCEL    [▲▼:CHANGE VAL.]
```

- ACTION NO.
  [NONE/PRESET/AUTO PAN/PATTERN]
- DWELL [1 second ~ 4 minutes]
  Sets Dwell Time between functions
- OPT
  Option. It represents preset speed (2~360) when preset is selected. It should be the number of repetition (1~255) when Pattern or Auto Pan is selected for Action

④ Set up items such as ACTION NO., DWELL and OPT.

```
EDIT SCAN      1
-------------------------
 NO. ACTION NO. DWELL OPT
-------------------------
  1 PRESET [1] 00:03 360
  2 NONE
  3 NONE
  4 NONE
  5 NONE
-------------------------
 SAVE      [◄►:MOVE CURSOR]
 CANCEL    [▲▼:CHANGE VAL.]
```

⑤ After finishing setting up an Action, press **ENTER** key to one-upper-level menu (Step ②). Move cursor **Up/Down** to select Action number and repeat Step ② ~ Step ④ to edit selected Scan.

```
EDIT SCAN      1
-------------------------
 NO. ACTION NO. DWELL OPT
-------------------------
→ 1 PRESET  1 00:03 360
  2 NONE
  3 NONE
  4 NONE
  5 NONE
-------------------------
 SAVE    [ENTER : EDIT ACT]
 CANCEL  [LEFT  : EDIT END]
```

⑥ After finishing setting up all Actions, press **LEFT** key to exit. Then cursor should be moved to "**SAVE**". Press **ENTER** key to save data.

```
EDIT SCAN      1
-------------------------
 NO. ACTION NO. DWELL OPT
-------------------------
  1 PRESET  1 00:03 360
  2 NONE
  3 NONE
  4 NONE
  5 NONE
-------------------------
→SAVE
 CANCEL
```

SCHEDULE SETUP

```
SCHEDULE SETUP
--------------------------
→MASTER ENABLE          ON
   DAY TIME   ACT    NO   ON
 1 UNDEFINED
 2 UNDEFINED
 3 UNDEFINED
 4 UNDEFINED
 5 UNDEFINED
 6 UNDEFINED
 7 UNDEFINED
 BACK
```

- MASTER ENABLE [ON/OFF]
  Decide whether Schedule function is active or not.
- CLEAR SCHEDULE [CANCEL/OK]
  Delete all data in current Menu
- EDIT SCHEDULE Start editing Schedule.

❖ Edit Schedule

① After move the Cursor to the number by using **Up/Down** keys, press **ENTER** Key to edit.

```
SCHEDULE SETUP
--------------------------
 MASTER ENABLE          ON
   DAY TIME   ACT    NO   ON
→1 UNDEFINED
 2 UNDEFINED
 3 UNDEFINED
 4 UNDEFINED
 5 UNDEFINED
 6 UNDEFINED
 7 UNDEFINED
 BACK
```

② Each field can be selected by **Left/Right** keys and the values in the field are changed using **Up/Down** keys.

```
SCHEDULE SETUP
--------------------------
 MASTER ENABLE          ON
   DAY TIME   ACT    NO   ON
→1 [MON] 00:00 HOM       OFF
 2 UNDEFINED
 3 UNDEFINED
 4 UNDEFINED
 5 UNDEFINED
 6 UNDEFINED
 7 UNDEFINED
 BACK
```

The meaning of each value:

DAY	Days: MON → TUE → WED → THU → FRI → SAT → SUN WKD: Weekday ALL: All days(Everyday)
TIME	24hour Format
ACT	PRS(Preset), AUP(Auto Pan), PTN(Pattern), SCN(Scan), HOM(Home)
ON/OFF	Decide to make this rule effective or not

If you finish a rule, press **ENTER** key to select another rule.

Repeat this procedure to fill up the schedule in mind.

③ Example

– The second rule means camera will move to Preset 12 position at 7:35 on every Wednesday.

```
SCHEDULE SETUP
--------------------------
 MASTER ENABLE          ON
   DAY TIME   ACT    NO   ON
→1 MON 01:20 HOM         ON
 2 WED 07:35 PRS    12   ON
 3 THU 11:40 SCN     3   ON
 4 SAT 15:17 PTN     1   ON
 5 WKD 23:00 HOM         ON
 6 UNDEFINED
 7 UNDEFINED
 BACK
```

* Note: If there are rules conflicts to each other, the higher number is, the higher priority has.
* Note: If you assign undefined function, there will be no action.
* Hint: Using reserved Preset, you can make various schedules. For example, PRS179 are PRS178 are Day and Night mode respectively.
  (Refer to Reserved Preset(page 19) List in this manual.)

CAMERA SETUP

Setup the general functions of zoom camera module

```
ZOOM CAMERA SETUP
-------------------------
→FOCUS MODE     ONEAF
 DIGITAL ZOOM   ON
 IMAGE FLIP     OFF
 FLICKERLESS    OFF
 <WHITE BALANCE SETUP>
 <AUTO EXPOSURE SETUP>


 BACK
 EXIT
```

- FOCUS MODE [AUTO/MANUAL/ONEAF]

  Sets camera focus mode.

  ◆ ONEAF

  This mode exchanges focus mode automatically between Manual Focus mode and Auto Focus mode. Manual Focus mode activates in preset operation and Auto Focus mode activates when jog operation starts.

  With Manual mode at presets, Focus data is memorized in each preset in advance and camera calls focus data in correspondence with presets as soon as camera arrives at a preset.

- DIGITAL ZOOM [ON/OFF]

  Sets digital zoom function to ON/OFF. If this is set to OFF, optical zoom function runs but zoom function stops at the end of optical zoom magnification.

- IMAGE FLIP [ON/OFF]

  To display Upside down image.

- FLICKERLESS [ON/OFF]

  This is for preventing a flickering screen that is caused by a mismatch between the vertical sync frequency and the flicker frequency of the lighting; if set to ON, the AE mode will switch to Shutter mode and the shutter speed will be fixed at 1/100 second.

❖ White Balance Setup

```
WB SETUP
-------------------------
→WB MODE          AUTO
 - RED  ADJUST    ---
 - BLUE ADJUST    ---




 BACK
 EXIT
```

- WB MODE [AUTO/MANUAL]

  In Manual mode, Red and Blue level can be set up manually

- RED ADJUST [0~255]
- BLUE ADJUST [0~255]

❖ Auto Exposure Setup

```
AE SETUP
-------------------------
→WDR/BLC          ALL OFF
 DAY/NIGHT        AUTO 1
 AE MODE          AUTO
 ■ IRIS LEVEL     ---
 ■ GAIN LEVEL     ---
 ■ SHUTTER SPD    AUTOX16
 ■ BRIGHTNESS     ---

 BACK
 EXIT
```

- WDR/BLC [ALL OFF / WDR ON / BLC ON]

  Select WDR(Wide Dynamic Range) or BLC(Backlight Compensation) function. All OFF means turning off both functions.

- DAY/NIGHT [AUTO 1/AUTO 2/DAY/NIGHT]

  The illumination condition for switching between Day and Night modes of AUTO1 is brighter than that of AUTO2.

- AE MODE [AUTO / MANUAL / IRIS / SHUTTER / BRIGHT]

  AUTO: Full Auto mode for AE function

  MANUAL: In manual mode. Iris, Gain, Shutter Speed can be changed in this mode.

  IRIS: Iris priority mode. You can change Iris while others are adjusted automatically.

  SHUTTER: Shutter priority mode. Shutter speed can be changed while others are adjusted automatically.

  BRIGHTNESS: In this mode, you can assign AE value in terms of Brightness.

- IRIS LEVEL
  Works when AE MODE is MANUAL or IRIS model
  [Range: CLOSE/F1.6/F2/F2.4/F2.8/F3.4/F4/F4.8/ F5.6/F6.8/F8/ F9.6/F11/F14/F16/F19/F22/F28. (18 steps)]
- GAIN LEVEL
  Works when AE MODE is MANUAL
  Enhances image brightness automatically in case that luminance level of image signal is too low.
  [Range: -3/0/2/4/6/8/10/12/14/16/18/20/22/24/26/ 28dB (16 steps)]
- SHUTTER SPD
  Works when AE MODE is MANUAL or SHUTTER mode
  [X64, X32, X16, X8, X4, X2,1/60,1/90,1/100,1/125,1/ 180,1/250,1/350,1/500,1/725,1/1000,1/1500,1/ 2000,1/4000,1/6000,1/10000]
  Works when AE MODE is AUTO mode
  [OFF, AUTO X2, AUTO X4, AUTO X8, AUTO X16]
  If you want to sense the light brightness to control the shutter speed to the brightness automatically, select the AUTO slow shutter.
- BRIGHTNESS
  Works when AE MODE is BRIGHT
  Adjusts brightness of images. Iris, Shutter Speed and Gain are adjusted automatically in correspondence with this value.
  [Range: 0~31 (32 steps)]

SYSTEM SETUP

```
SYSTEM SETUP
--------------------------
→<RELAY TYPE>
  <PASSWORD>
  <SET HOME POSITION>
  <SET NORTH DIRECTION>
  LANGUAGE          ENGLISH



  BACK
  EXIT
```

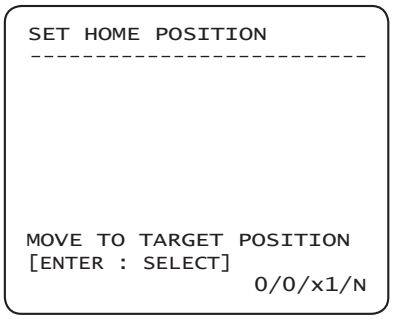
- SYSTEM SETUP
  You can set up RELAY TYPE, PASSWORD, HOME POSITION, NORTH DIRECTION, LANGUAGE.

```
RELAY TYPE SETUP
--------------------------
→RELAY1 NORMAL OPEN
 RELAY2 NORMAL OPEN
 RELAY3 NORMAL OPEN
 RELAY4 NORMAL CLOSE




 BACK
 EXIT
```

- RELAY TYPE SETUP
  Contact types of 4 Ch. RELAY OUTPUTS are defined. [NORMAL OPEN / NORMAL CLOSE]

```
EDIT PASSWORD
--------------------------
 [■   ]
  ----------
  1234567890      OK
  ABCDEFGHIJ      CANCEL
  KLMNOPQRST
  UVWXYZabcd    DISABLE
  efghijklmn
  opqrstuvwx
  yz<>-/:.←
```

- EDIT PASSWORD
  You can define 4 characters long password. If this function is set to ENABLE, it is required to type this password whenever to enter OSD MENU.
  It is noted that DEFAULT PASSWORD : “4321”



- SET HOME POSITION

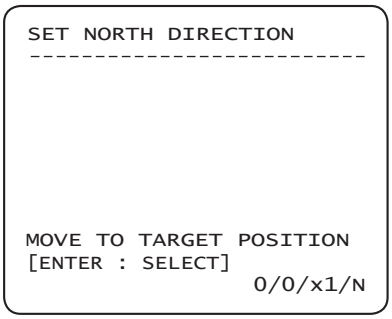
  HOME position means the origin of PAN angle calculation. The value of PAN angle displayed on the screen is based on this HOME position.

  By using Joystick, move the camera to the desired position and press **ENTER**.

  It is noted that Home is not effective to Tilt angle.

  - If you change the location of Home position, all horizontal locations of functions such as preset, pattern, scan, auto pan, and privacy zone mask will be shifted based on changed Home position.
  - If there are no setup for those functions like Preset, Pattern, Auto Pan and Scan, Camera will automatically move to Home position after rebooting.
    If Power Up Action is set to be ON, camera will continue the function which is executed lastly after rebooting.

  * Set Home Position?
    When you replace the camera block or the orientation of camera is changed due to maintenance operations, it is very difficult to maintain same pan orientation. Therefore, all function data depending on pan orientation such as preset, pattern, scan, auto pan, and privacy zone mask are not useful any more accordingly. However, even in this case, you can reuse the data if you redefine Set Home Position on the previous Home position. It is recommendable to memorize the target scene of current Home position.



- SET NORTH DIRECTION

  You can set up North direction.

  By using Joystick, move the camera to the desired NORTH position and press **ENTER** key.

  The direction will be displayed in the screen

  [PAN AXIS / TILT AXIS / ZOOM / DD]

  DD is direction and will be displayed from:

  [N/NE/E/SE/S/SW/W/NW]

- LANGUAGE

  You can select a preferred Language of OSD display from 7 choices.

  [ENGLISH/ ESPAÑOL/ FRANÇAIS/ DEUTSCH/ ITALIANO/ РУССКИЙ/ PORTUGUÊS]

  After selecting a language, press the **ENTER** key.

how to use osd menu

SYSTEM INITIALIZE

```
SYSTEM INITIALIZE
-------------------------
→CLEAR ALL DATA        NO
  ■ CLR DISPLAY SET    NO
  ■ CLR CAMERA SET     NO
  ■ CLR MOTION SET     NO
  ■ CLR FUNCTION SET   NO
  REBOOT CAMERA        NO
  REBOOT SYSTEM        NO

  BACK
  EXIT
```

- CLEAR ALL DATA
  Deletes all configuration data such as display, camera, motion setup and so on.
- CLR DISPLAY SET
  Initializes Display Configuration
- CLR CAMERA SET
  Initializes Camera Configuration
- CLR MOTION SET
  Initializes Motion Configuration
- CLR FUNCTION SET
  Deletes Preset Data, Auto Pan Data, Pattern Data, Scan Data and Schedule Data
- REBOOT CAMERA
  Reboots Zoom Camera module
- REBOOT SYSTEM
  Reboots Smart Dome Camera

❖ Initial Configuration Table

• Display Configuration	
Camera ID	ON
PTZ Information	AUTO
Action Title	AUTO
Preset Label	AUTO
Alarm I/O	AUTO
Date/Time	ON
Privacy Zone	Undefined

• Motion Configuration	
Preset Lock	OFF
Power Up Action	ON
D-Flip	ON
Jog Max Speed	140°/sec
Jog Direction	NORMAL
Image Hold	OFF
Park Action	OFF

• Communication Setup	
Protocol	AUTO
Baud Rate	9600

• Camera Configuration	
Focus Mode	ONEAF
Digital Zoom	ON
Image Flip	OFF
Flickerless	OFF
White Balance	AUTO
Backlight/BLC	ALL OFF
Day/Night	AUTO 1
AE Mode	AUTO
Iris Level	F4
Gain Level	+2dB
Shutter Speed	1/60(MANUAL), AUTO X16(AUTO)
Brightness	13

• Function Data	
Preset 1~128	Undefined
Auto Pan 1~8	Undefined
Pattern 1~4	Undefined
Scan 1~8	Undefined
Schedule 1~7	Undefined

network connection & setup

You can set up the network settings according to your network configurations.

❖ **Network connection and setup processes are given as follows.**

- Connect the camera to an IP router with a xDSL/Cable modem. (Page 37~38)
- Connect the camera to an IP router with local area networking. (Page 39~40)
- Connect the camera directly to a DHCP-based xDSL/Cable modem. (Page 41)
- Connect the camera directly to local area networking. (Page 42)

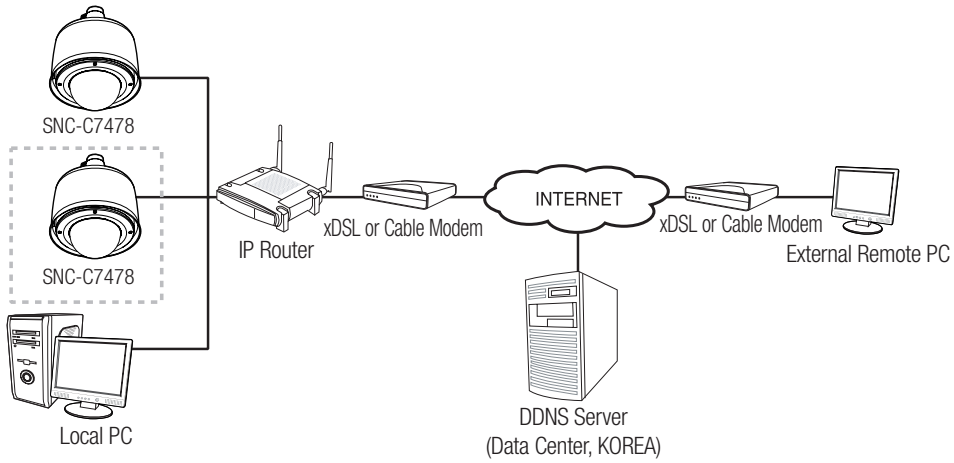
▪ Compliant IP routers are as listed below.
- Linksys
- D-Link
- Netgear

▪ Using non-recommended IP router may cause the network connection error.

▪ Depending on the performance of the PC (Viewer installed) or the network, the video transmission can be delayed or even disconnected.
For soft video transmission, you can set the bandwidth in <**NETWORK**> → <**STREAMING SETUP**> in the setup menu.

▪ The IP and MAC addresses used in this manual are for illustrative purposes only.
Therefore, you must refer to Notice the network settings of your PC and do not enter the addresses presented in this manual.

CONNECTING THE CAMERA TO AN IP ROUTER WITH THE XDSL/ CABLE MODEM



Configuring the network settings of the local PC connected to an IP router

Configuring the network settings of the local PC connected to an IP router, follow the instructions below.

- Select : <**Network Neighborhood**> → <**Properties**> → <**Local Area Connection**> → <**Properties**> → <**General**> → <**Internet Protocol (TCP/IP)**> → <**Properties**> → <**Obtain an IP address automatically**> or <**Use the following IP address**>
- Follow the instructions below if you select <**Use the following IP address**>:
  ex1) If the address (LAN IP) of the IP router is 192.168.1.1
  IP address: 192.168.1.100
  Subnet Mask: 255.255.255.0
  Default Gateway: 192.168.1.1

ex2) If the address (LAN IP) of the IP router is 192.168.0.1
IP address: 192.168.0.100
Subnet Mask: 255.255.255.0
Default Gateway: 192.168.0.1

ex3) If the address (LAN IP) of the IP router is 192.168.xxx.1
IP address: 192.168.xxx.100
Subnet Mask: 255.255.255.0
Default Gateway: 192.168.xxx.1

■ For the address of the IP router, refer to the product's documentation.

Checking if the IP router is connected to the xDSL/Cable modem properly

Select <**Status**> from the Settings menu of the IP Router.

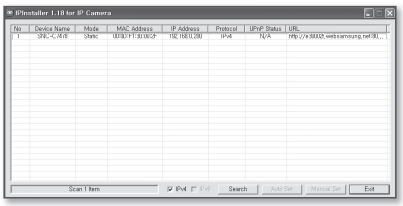
- If it is properly connected, <**IP Address**>, <**Subnet Mask**> and <**Gateway**> provided by your ISP are displayed. Please remember these values because they are required so that an external remote computer of the IP router connects to the camera. However, note that certain ISPs change the settings of <**IP Address**>, <**Subnet Mask**> and <**Gateway**> on a regular basis
- If the IP router is not properly connected, press the [**Connect**] button to try to reconnect or check if the settings of the IP router are correct.

Setting the IP address

- Refer to "**Setting Static IP**" on page 44 or "**Setting Dynamic IP**" on page 47.

Connecting a local PC in the IP router to the camera

1. Run the IP Installer on your local PC and search for the camera.
2. If found, double-click the camera to start the Internet browser and try to connect to the camera. Alternately, launch the Internet browser manually and enter the IP address of the camera found in the address bar to connect to it.
ex) http://192.168.1.2

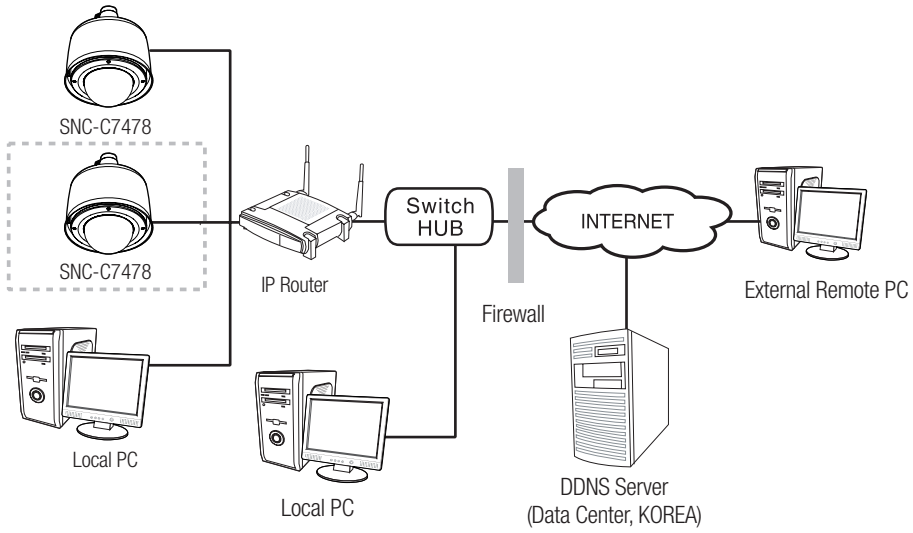


Connecting to the camera from a remote PC

1. You can't use the IP Installer on a remote PC that is not connected to the IP router. This is because the IP Installer does not work on the Internet.
2. You can use DDNS URL of the camera to connect to the IP router internal camera.
3. However, you must set the port-forwarding for the IP router before you can connect to the IP router internal camera from a remote PC.
For more information on the port-forwarding, refer to "**Port Forwarding (Port Mapping) Setting**" on page 47.
4. When the port forwarding is done, run the Internet browser on the remote PC and enter the DDNS URL address or, the Internet IP address of the IP router in the address bar for connecting to the camera.
ex) http://e30002c.websamsung.net
   - For the DDNS URL address, refer to "**Checking the DDNS address**" on page 49.

CONNECTING THE CAMERA TO AN IP ROUTER WITH LOCAL AREA NETWORKING

This is for a large network environment such as corporate office, building, public office and factory.



Configuring the network settings of the local PC connected to an IP router

Configuring the network settings of the local PC connected to an IP router, follow the instructions below.

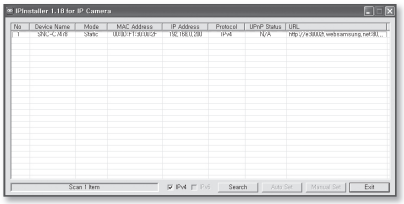
- Select : <**Network Neighborhood**> → <**Properties**> → <**Local Area Connection**> → <**Properties**> → <**General**> → <**Internet Protocol (TCP/IP)**> → <**Properties**> → <**Obtain an IP address automatically**> or <**Use the following IP address**>
- Follow the instructions below if you select <**Use the following IP address**>:
  ex1) If the address (LAN IP) of the IP router is 192.168.1.1
  IP address: 192.168.1.100
  Subnet Mask: 255.255.255.0
  Default Gateway: 192.168.1.1
  ex2) If the address (LAN IP) of the IP router is 192.168.0.1
  IP address: 192.168.0.1
  Subnet Mask: 255.255.255.0
  Default Gateway: 192.168.0.1
  ex3) If the address (LAN IP) of the IP router is 192.168.xxx.1
  IP address: 192.168.xxx.1
  Subnet Mask: 255.255.255.0
  Default Gateway: 192.168.xxx.1

▪ For the address of the IP router, refer to the product's documentation.

Setting the IP address

- Refer to "**Setting Static IP**" on page 44 or "**Setting Dynamic IP**" on page 47.

Connecting a local PC in the IP router to the camera



1. Run the IP Installer on your local PC and search for the camera.
2. If found, double-click the camera to start the Internet browser and try to connect to the camera. Alternately, launch the Internet browser manually and enter the IP address of the camera found in the address bar to connect to it.
   ex) http://192.168.1.2

Connecting to the camera from an IP router external PC

1. An IP router external PC can't use the IP Installer to search for an IP router internal camera. This is because the IP Installer does not work in a network where the gateway is different.
2. In this case, you can use the DDNS URL of the camera or the Internet IP address of the IP router to connect to the IP router internal camera.
3. However, you must set the port-forwarding for the IP router before you can connect to the IP router internal camera from a remote PC. For more information on the port-forwarding, refer to "**Port Forwarding (Port Mapping) Setting**" on page 47.
4. When the port forwarding is done, run the Internet browser on the IP router External PC and enter the DDNS URL address or, the Internet IP address of the IP router in the address bar for connecting to the camera.
   ex) http://e30002c.websamsung.net
   - For the DDNS URL address, refer to "**Checking the DDNS address**" on page 49.

- A remote PC in an external Internet out of the LAN network may not be able to connect to the camera installed in the intranet if the port-forwarding is not properly set or a firewall is set.
  In this case, to resolve the problem, contact your network administrator.

CONNECTING THE CAMERA DIRECTLY TO A DHCP-BASED XDSL/ CABLE MODEM

This is enabled for a modem using DHCP.

Setting the IP Router

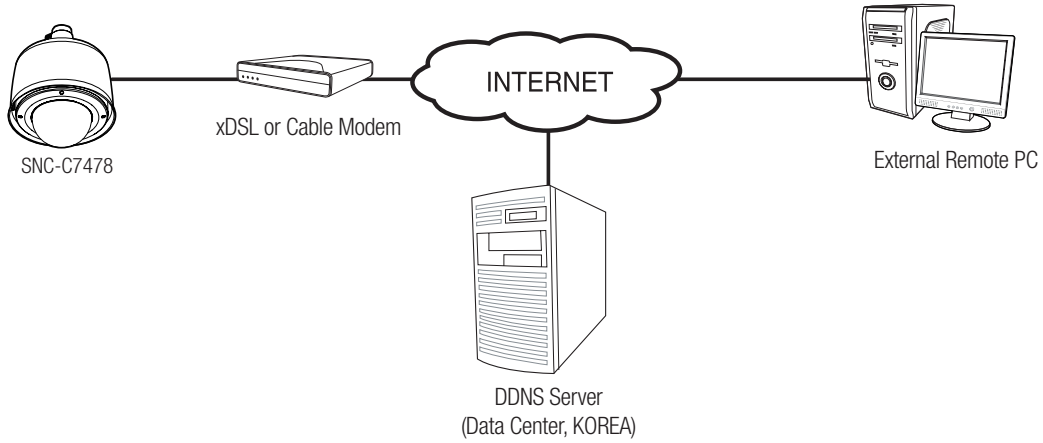
1. Set the IP address referring to "**Setting Static IP**" on page 44 or "**Setting Dynamic IP**" on page 47.
2. Launch an Internet browser on the local PC connected to the IP Router.
3. Enter the IP Router's address in the address bar of the browser.
   ex) http://192.168.1.1 ,http://192.168.0.1 or http://192.168.xxx.1
   • For the DDNS URL address, refer to "**Checking the DDNS address**" on page 49.
4. When the IP Router is connected, the login window appears and prompts you to enter the password.

■ For the login IP and the password, refer to the IP router's documentation.

5. When done, you will see the setup window of the IP router. In the setup menu, select <**Automatic Configuration-DHCP**> for <**Internet Connection Type**>.

■ For the menu location of <**Internet Connection Type**> or DHCP selection, refer to the IP router's documentation.

6. When done, click the [**Save**] or [**Apply**] button to save the settings.

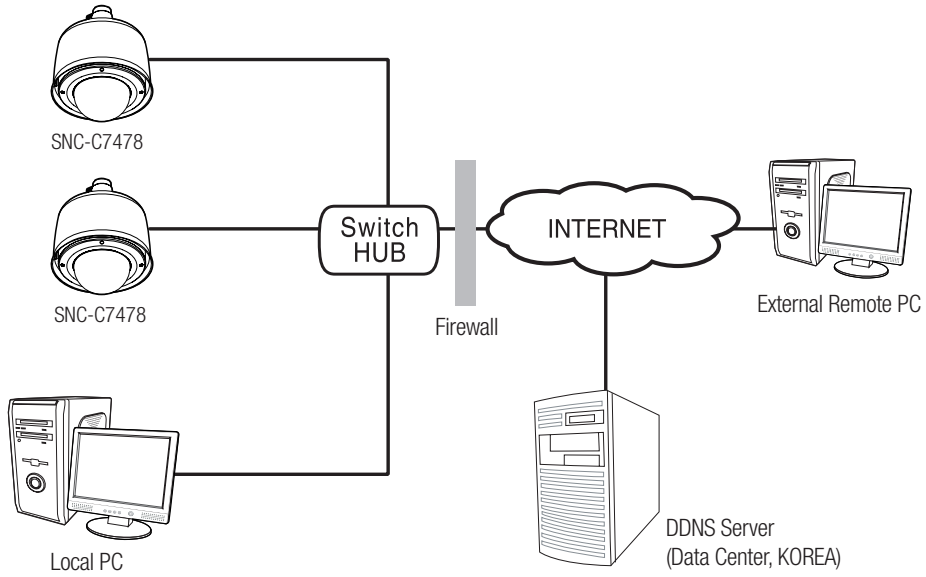


Connecting to the camera from a remote PC

1. Launch an Internet browser on the remote PC.
2. Enter the DDNS URL address in the address bar of the browser for connecting to the camera.
   ex) http://e30002c.websamsung.net
   • For the DDNS URL address, refer to "**Checking the DDNS address**" on page 49.

■ To check if your xDSL / Cable modem uses DHCP, contact your Internet Service Provider.

CONNECTING THE CAMERA DIRECTLY TO LOCAL AREA NETWORKING



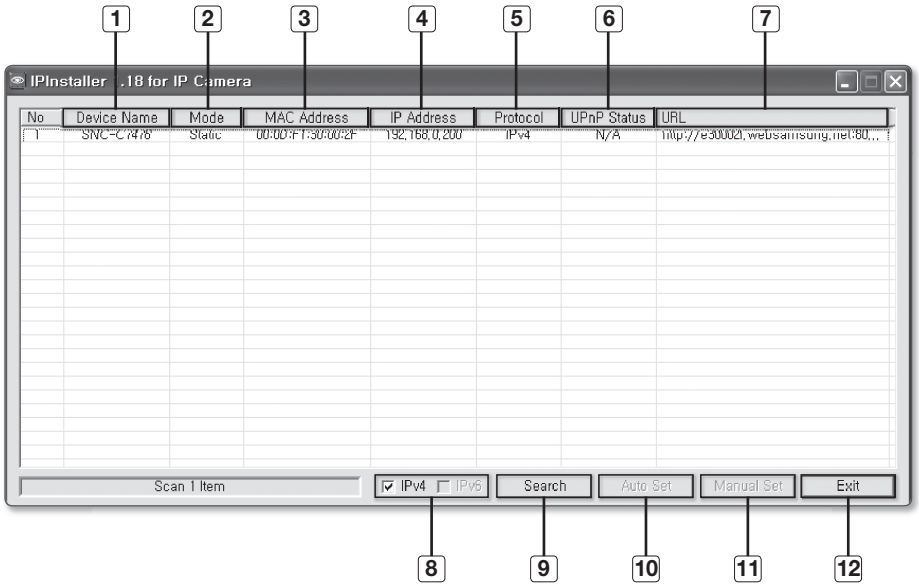
Connecting to the camera from a local PC in the LAN

1. Launch an Internet browser on the local PC.
2. Enter the IP address of the camera in the address bar of the browser.

▪ A remote PC in an external Internet out of the LAN network may not be able to connect to the camera installed in the intranet if the port-forwarding is not properly set or a firewall is set.
In this case, to resolve the problem, contact your network administrator.

SEARCHING FOR THE CAMERA

❖ IP Installer screen layout



1 **Device Name** : Model name of the connected device.

2 **Mode** : Shows the current selection between <**Static**>and <**Dynamic**>.

3 **MAC Address** : The Mac address of the network interface of the camera.

4 **IP Address** : The IP address of the camera. (Default setting is '192.168.1.200'.)

5 **Protocol** : Indicates if the camera network environment is IPv4 or IPv6.

6 **UPnP Status** : This is unavailable for this camera.

7 **URL** : This is DDNS address that can be used to connect from an external Internet. However, if the DDNS update fails, it will be displayed as an IP address of the camera.

8 **IPv4, IPv6 Check Box** : Searches for cameras only in the selected network environment.

9 **Search Button** : Searches for the camera connected to the current network.

10 **Auto Set Button** : Sets up the camera network settings automatically using the <**IP Installer**>.

11 **Manual Set Button** : Allows the user to set up the camera network settings manually.

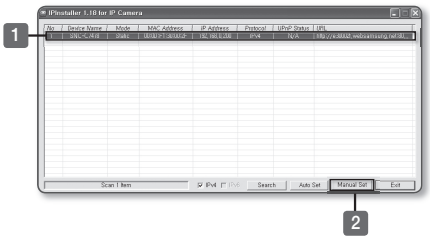
12 **Exit Button** : Exits the IP Installer program.

▪ On Windows Vista, the settings should be configured by the Administrator to use the IP installer normally.

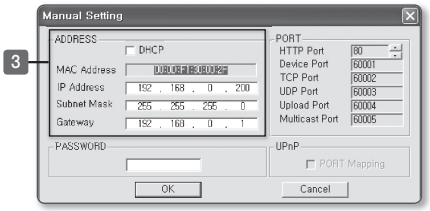
setting static ip

MANUAL NETWORK SETTING

Run the <**IP Installer.exe**> program and display the camera list found on the screen.
For the initial run, the [**Auto Set**] and [**Manual Set**] button are all disabled.



1. Select a camera you want from the camera list.
   - Check the MAC address marked in the network box.
   - Check the MAC address in System Information under the Setup menu of the camera.
   - The [**Auto Set**] and [**Manual Set**] button are activated.
2. Click the [**Manual Set**] button.
   - The Manual Set window appears.
   - The <**IP Address**>, <**Subnet Mask**>, <**Gateway**> and <**HTTP Port**> values of the camera are displayed in their default values.
   - The password is set to “4321” by factory default.



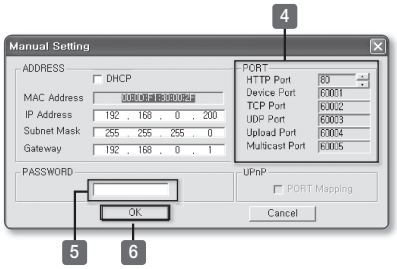
3. Set up the IP related settings in the <**ADDRESS**> field.
   - <**MAC Address**>: The MAC Address is automatically displayed. No additional setting is required.

   If using an IP router :
   - <**IP Address**>: Set it according to the private IP address range provided by the IP Router.
     ex) 192.168.1.2~254, 192.168.0.2~254, or 192.168.XXX.2~254
   - <**Subnet Mask**>: The IP Router’s <**Subnet Mask**> becomes camera’s <**Subnet Mask**> value.
   - <**Gateway**>: The IP Router’s <**Local IP Address**> becomes camera’s <**Gateway**> value.

   If not using an IP router :
   - For the <**IP Address**>, <**Gateway**> and <**Subnet Mask**> settings, contact your network administrator.

- For the menu location of Internet Connection Type or DHCP selection, refer to the IP router’s documentation.

4. In the <**PORT**>fields, set up port numbers.
   - <**HTTP Port**>: A HTTP port used to connect to a camera using the Internet browser. The default value is 80. The HTTP port value can be changed by using the up/down button to the right.
     The HTTP port number starts with 80 and increases/decreases to 10000, 10006, 10012…
   - <**Device Port**>: A port used to control video transmission. The default value is 60001(TCP).
   - <**TCP Port**>: A port used to transfer video using TCP protocol. The default value is 60002(TCP).
   - <**UDP Port**>: A port used to transfer video using UDP protocol. The default value is 60003(UDP).
   - <**Upload Port**>: A port used to upgrade software. The default value is 60004(TCP).
   - <**Multicast Port**>: Shows UDP port set for video transmission using UDP Multicast. The default value is 60005(UDP).



5. Enter your password.
   - The default password is “4321”.
   - The password is the camera login password of the root user.

6. Click the [**OK**] button.
   - The manual network setting is finished.

7. The camera is set to the manually entered IP and is restarted.

❖ If more than one camera are connected to an IP Router

Set the IP and port settings for camera differently.

Items		1st Camera	2nd Camera
IP Related Items	IP Address	192.168.1.200	192.168.1.201
	Subnet Mask	255.255.255.0	255.255.255.0
	Gateway	192.168.1.1	192.168.1.1
Port Related Items	HTTP Port	80	10000
	Device Port	60001	10001
	TCP Port	60002	10002
	UDP Port	60003	10003
	Upload Port	60004	10004
	Multicast Port	60005	10005

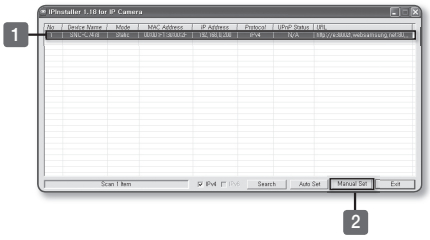
- If <**HTTP Port**> is not set to 80,the user must specify the port number as well as the IP address in the Address input box of an Internet browser to connect to the camera.
  ex) http://IP Address: HTTP Port
  e.g.) http://192.168.1.201: 10000

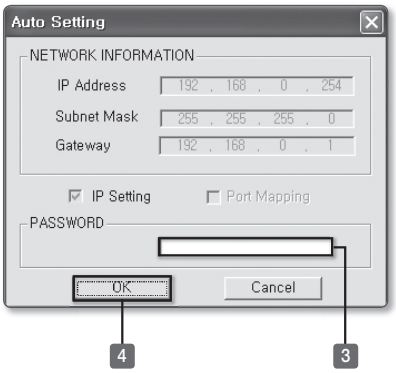
setting static ip

AUTOMATIC NETWORK SETTING

Run the <**IP Installer.exe**> program and display the camera list found on the screen.
For the initial run, the [**Auto Set**] and [**Manual Set**] button are all disabled.

1. Select a camera you want from the camera list.
   - The [**Auto Set**] and [**Manual Set**] button are activated.
2. Click the [**Auto Set**] button.
   - The Auto Set window appears.
   - The automatically found <**IP Address**>, <**Subnet Mask**> and <**Gateway**> are displayed.
3. Enter your password.
   - The password is the camera login password of the root user.
   - The default password is “4321”.
4. Click the [**OK**] button.
   - The automatic network setting is finished.
5. The camera automatically restarts when the network setting is complete.



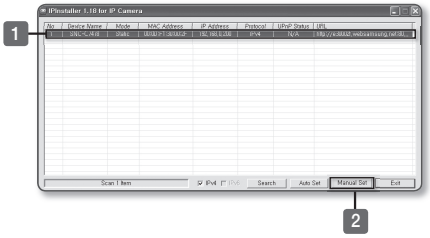


■ For the menu location of Internet Connection Type or DHCP selection, refer to the IP router’s documentation.

DYNAMIC IP SETTING

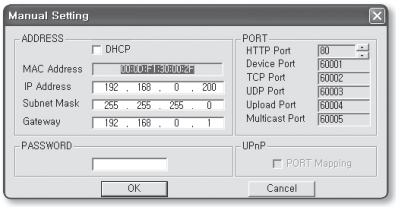
❖ Examples of using Dynamic IP

- If the camera is installed on an IP router and obtains an IP using DHCP.
- If the camera is connected directly to a xDSL/Cable modem using DHCP.
- If an IP is allocated by the internal DHCP server in local area networking.



❖ Dynamic IP Check

1. When you run the IP Installer on your local PC, the camera with a dynamic IP allocated is listed.
2. Select the camera in the list and click the [**Manual Set**] button to check the camera for the current dynamic IP.
   - In this case, the ADDRESS field is automatically filled and you can't change it. However, you can still change the port settings.

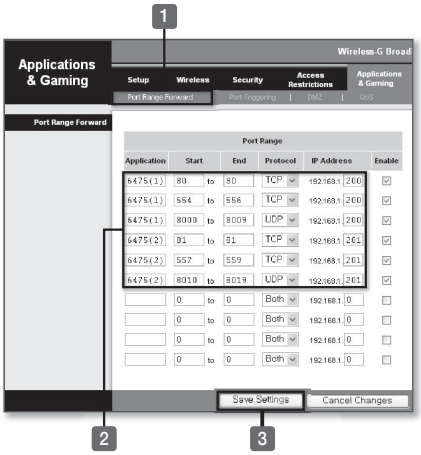


PORT FORWARDING (PORT MAPPING) SETTING

With the camera installed on an IP router, you must set the port forwarding for the IP router before an IP router external remote PC can connect to the IP router internal camera.

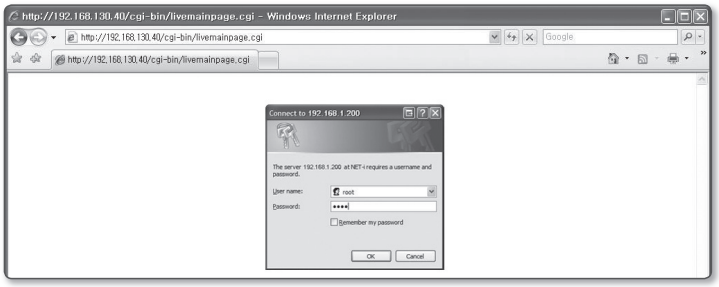
❖ Manual Port Forwarding

1. Click <**Applications &Gaming**> → <**Port Range Forward**> from the Settings menu of the IP Router.
   - For the menu location and the setting of Port Forwarding, refer to the IP router's documentation.
2. Select the <**TCP**> and <**UDP Port**> for each camera connected to the IP Router.
   - Each of the port numbers for the IP Router must be according to those presented in <**BASIC**> → <**IP**> of the SETUP screen of the camera.
3. If the setting is complete, click the [**Save Settings**] button.
   - The changes are saved.



CONNECTING TO THE CAMERA

❖ Connecting to the camera



General

- Run an Internet browser.
- Enter the IP address for the camera in the Address input box.
  ex) IP Address: 192.168.1.200 → http://192.168.1.200
  - The login window appears.

If the HTTP port number is not 80

- Run an Internet browser.
- Enter the IP address and the HTTP port number for the camera in the Address input box.
  ex) IP Address: 192.168.1.200:Port Number(10000) → http://192.168.1.200:10000
  - The login window appears.

Connection using URL

- Run an Internet browser.
- Enter the DDNS URL for the camera in the Address input box.
  ex) URL Address: http://e30002c.websamsung.net
  - The login window appears.

Connection using URL (If the HTTP port number is not 80)

- Run an Internet browser.
- Enter the DDNS URL and the HTTP port number for the camera in the Address input box.
  ex) URL Address: http://e30002c.websamsung.net:Port Number(10000) →
  http://e30002c.websamsung.net:10000
  - The login window appears.

❖ Checking the DDNS address

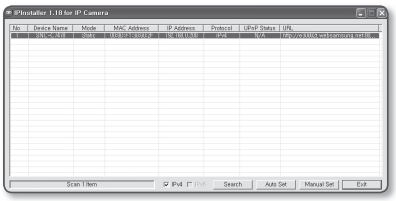
- A DDNS address consists of <**e**> + <**Last 6 digits of the MAC address**> + <**websamsung.net**>.
  ex) - If the MAC address of the camera is 00: 0D : f1 : 30 : 00 : 2c → e + 30002c + websamsung.net = e30002c.
  websamsung.net

▪ The IP and MAC addresses are used in this manual for illustrative purposes only. Therefore, you must not enter Notice the addresses presented in this manual when you setting your equipment.

❖ Connecting to the camera using the IP Installer program

Double-click a camera you want from the search result screen.

- The login window appears.
- If the ActiveX installation dialog appears, follow the instructions below to install it.

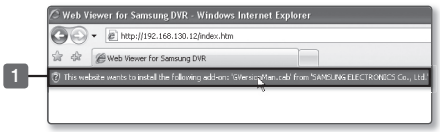


INSTALLING ACTIVEX

If you connect the camera to the Internet and configure the network settings, you can monitor the picture of the connected camera in real-time.

❖ For Windows XP Service Pack 2

1. If the following screen appears, click the Install button.
2. Click the <**Install ActiveX Control**>.
3. If the Security Warning window appears, click the [**Install**] button.



▪ For successful installation, disable the pop-up blocker by going to the option below.
Internet Explorer → Tools → Pop-up blocker → Always Allow Pop-ups from This Site

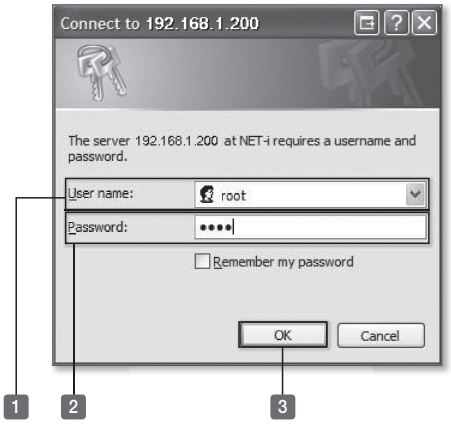
Internet Explorer - Security Warning
Do you want to install this software?
Name: webviewer.cab
Publisher: SAMSUNG ELECTRONICS Co., Ltd.
More options
Install
Don't Install
While files from the Internet can be useful, this file type can potentially harm your computer. Only install software from publishers you trust. What's the risk?
3

using the camera

❖ Logging to the camera

For the first login, the username is “root” and password is “4321”.

1. Type “root” in the <**User name**> input box.
2. Type “4321” in the <**Password**> input box.
   - If you have changed the old password, type the new password here.
3. Click the [**OK**] button.
   - When the login is complete, the camera Viewer screen appears.

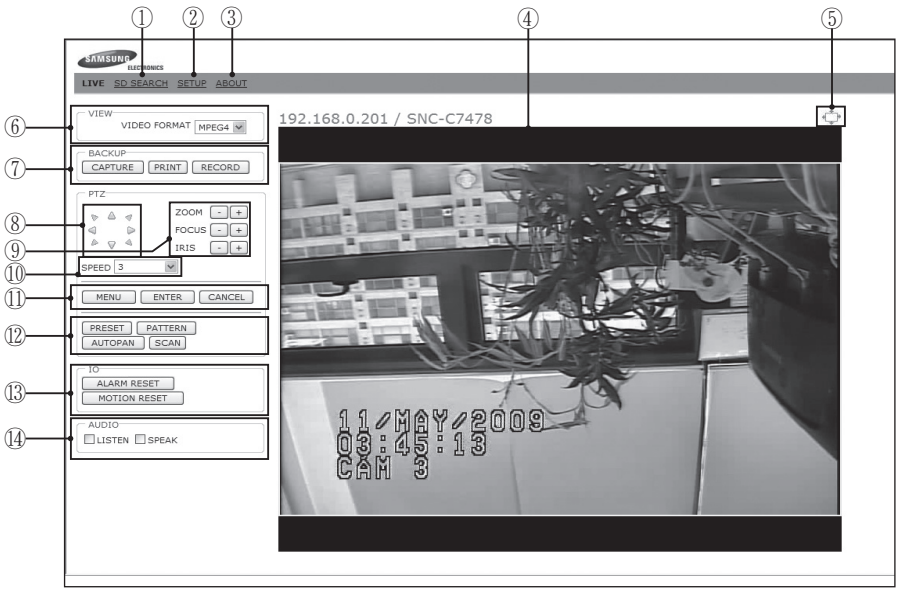


- For the security purposes, make sure to change the password by clicking <**BASIC**> → <**USER**> in the SETUP screen. The administrator ID, root is fixed and cannot be changed.
- If you check the <**Remember my password**>, the username and password are saved and will be entered automatically in the login window.

- You are required to install DirectX 8.1 or later on your Windows-based PC.
- You can download DirectX for free at http://www.microsoft.com/download
- When using Internet Explorer 7, the viewer screen is optimized with page zoom to 100%. Changing the size of the page zoom will only show portion of the page.

MAIN SCREEN

In this section, the main GUI of the Network Smart Dome will be explained.



① Click this menu to enter the search screen.

② Click this menu to enter Setup Tool.

③ Click this menu to view Network Smart Dome Camera Information.

④ Live video Display.

⑤ Display the live screen in full screen.

⑥ Set the video format.

⑦ Capture : Captures the recorded image on the screen and saves it as a .jpg or .bmp file.
Print : Prints the recorded image on the screen.
Record : Saves the recorded video as a .avi video file.

⑧ Move the image in eight directions including up/down/left/right.
Press a direction button to move the image; release it to hold the position.

⑨ Press this button to zoom in/out; release it to stop zooming.
Focus -/+: While pressing this button, the image stays focused; release it to stop focusing. This feature is available only in manual focus mode.
Iris -/+ : Press this button to open or close the iris; release it to hold the position.

⑩ Decide Pan/Tilt speed.

⑪ Start OSD menu of Smart Dome Camera. In the OSD Menu, Enter/ Cancel buttons are used as enter and cancel respectively. To move between different menu items, the Tile buttons in ⑧ is used.

■ To refer detail explanation of Camera OSD menu, see "**How to use OSD Menu**" (Page 25).

⑫ Preset / Pattern / Auto Pan / Scan Buttons
Preset: Run, Save or Delete the Preset positions memorized in the camera.
Pattern: Run the Pattern function programmed in the camera. (To create this function, use OSD Menu.)
Auto Pan: Run the Auto Pan function stored in the camera. (To create this function, use OSD Menu.)
Scan: Run the Scan function programmed in the camera. (To create this function, use OSD Menu.)

⑬ Reset currently activated alarm events (alarm input/output, motion detection).
(The Alarm Reset forces all Alarm Output to be OFF state and the Motion Reset will remove the icon displayed when motion is detected.)

⑭ Check the Listen or Speak check box for Audio.

POWER PTZ

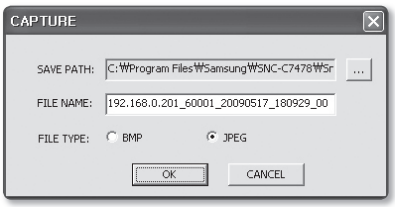
You can use the cursor to manipulate PTZ of the camera in the Web Viewer.

- Click the Live Screen to position the cursor area in the center of the screen.
- Click and drag the Live Screen to the lower right corner to zoom in the image.
- Click and drag the Live Screen to the upper left corner to zoom out the image.

USING THE CAMERA

❖ To Capture a Video

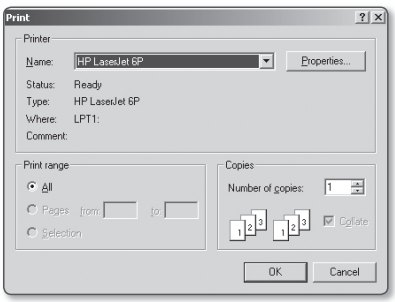
1. At a desired scene, click the [**CAPTURE**] button.
   • The capture confirmation window appears.
2. Click [**OK**].
   • The captured screen image is saved in the specified folder path.



- **Default save paths are provided for each version of Windows.**
  Windows XP: C:\Program Files\Samsung\SNC-C7478\SnapShot\Live
  To change the saving path, click [**SAVE PATH**] button(...) and then select the path you want.
  Windows Vista: C:\users\[user ID]\AppData\LocalLow\Samsung\SNC-C7478\SnapShot\Live
  The save path cannot be changed if you are using Windows Vista.
- The file is automatically named as follows: <IP address_Port number_YYMMDD_camera number_index>
  ex) 192.168.0.201_60001_20090517_180929_00

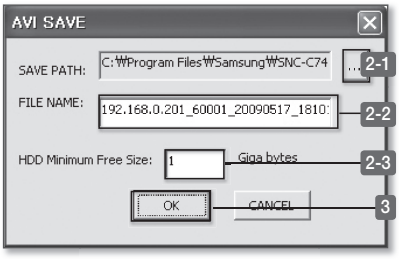
❖ To Print a Video

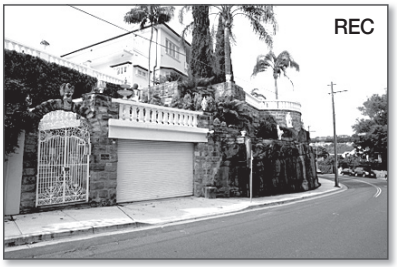
1. At a desired scene, click the [**PRINT**] button.
   • The print setup window appears.
2. Click [**OK**].
   • The captured screen image is printed.



❖ To Record a Video

1. At desired scene, click the [**RECORD**] button.
2. Set up the AVI save.
   - 2-1 Destination Folder: Allows you to change the file save path.
   - 2-2 File Name: Allows you to change the name of the file.
   - 2-3 Insufficient Disk Space Setting: Recording automatically stops if the amount of space available on the hard disk falls below the amount designated under this setting.
3. Click [**OK**].
   - On the viewer screen, <**REC**> indicator appears and the recording is started.
   - The captured screen image is saved in the specified saving path.
4. To stop a recording, click the [**RECORD**] button once again.
5. When plays stored avi files, use player where supports avi playing.



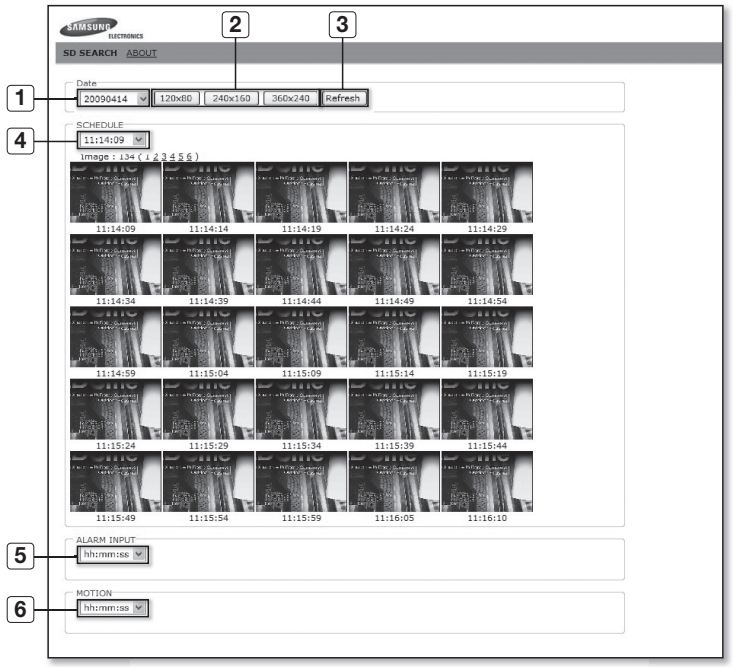


- **Default save paths are provided for each version of Windows.**
  Windows XP: C:\Program Files\Samsung\SNC-C7478\VidedClip\Live
  To change the saving path, click [**SAVE PATH**] button (...) and then select the path you want.
  Windows Vista: C:\users\[user ID]\AppData\LocalLow\Samsung\SNC-C7478\VideoClip\Live
  The save path cannot be changed if you are using Windows Vista.
- The file is automatically named as follows: <IP address_Port number_YYMMDD_camera number_index>
  ex) 192.168.0.201_60001_20090517_181029_00
- For AVI Save, you need the DivX codec for playing saved files. You can download the free version of the Divx codec at http://sourceforge.net/projects/ffdshow/.

USING THE SD SEARCH VIEWER SCREEN

If you connect to the camera, the following SD Search Viewer screen appears.

❖ SD Search Viewer Screen Layout



Name	Function and Description
1 Date	You can select the desired date to search for events generated.
2 Thumbnail Size	The thumbnail images are displayed based on the selected size.
3 Refresh	If a new event occurred and the event image is saved, pressing [**Refresh**] will add the event to the list.
4 SCHEDULE	You can select the desired time to search the schedule events.
5 ALARM INPUT	You can select the desired time to search the alarm events.
6 MOTION	You can select the desired time to search the motion detection events.

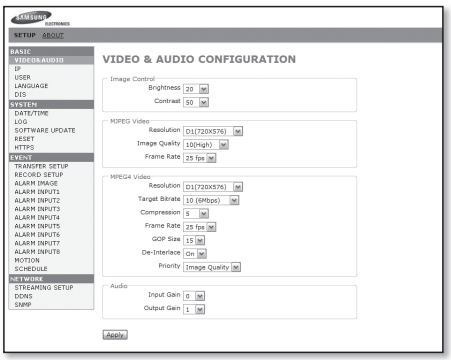
SETTING THE CAMERA

You can set various functions such as Basic Setting, System, Event, Network, etc.

❖ To setup the camera

In the viewer screen, click the [**SETUP**] tab.

The setup window appears.



❖ SETUP Screen Layout

- **SETUP**
  - BASIC
    - VIDEO & AUDIO
    - IP
    - USER
    - LANGUAGE
    - DIS
  - SYSTEM
    - DATE/TIME
    - LOG
    - SOFTWARE UPDATE
    - RESET
    - HTTPS
  - EVENT
    - TRANSFER SETUP
    - RECORD SETUP
    - ALARM IMAGE
    - ALARM INPUT1
    - ALARM INPUT2
    - ALARM INPUT3
    - ALARM INPUT4
    - ALARM INPUT5
    - ALARM INPUT6
    - ALARM INPUT7
    - ALARM INPUT8
    - MOTION
    - SCHEDULE
  - NETWORK
    - STREAMING SETUP
    - DDNS
    - SNMP

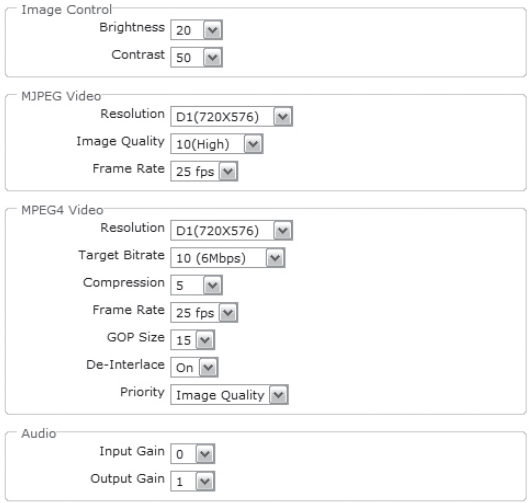
setup tool

This section is provided to familiarize the user with the setup tools. Intuitive options are not explained in detail.

All the changes on Setup Tools take effect immediately. These settings will be global, affecting the view of all users currently logged on.

All settings are always saved in the Network Smart Dome Camera even when you close the viewer program or you turn off the Power of the Network Smart Dome Camera.

VIDEO & AUDIO CONFIGURATION



❖ Image Control

- You can adjust the brightness and contrast from 1 to 100.

❖ Resolution

- Select a video size from D1, VGA and CIF.
  NTSC : D1(720x480), VGA(640x480), CIF(352x240)
  PAL : D1(720x576), VGA(640x480), CIF(352x288)

❖ Image Quality

- Select a video quality level between 1 and 10.

❖ Frame Rate

- Select a frame rate.
  NTSC : 30fps, 15fps, 8fps, 3fps, 1fps
  PAL : 25fps, 13fps, 6fps, 3fps, 1fps

❖ Target Bitrate

- Adjust it from 1 to 10 according to the network environment. If you select 10, the video quality is much improved, but the network connection may be lost depending on the network environment, as your setting will increase network traffic.

❖ Compression

- Set the compression ratio of an image in MPEG4 format. Adjust it from 5 to 100, where closing to 100 will increase the compression ratio.

❖ GOP Size

- You can select a GOP size between 1 and 15. The default is 15, and if set to 15, one I-Frame will be output per 15 frames as one I-Frame and 14 P-Frames constitute the GOP.
  The lower the GOP size is, the better the quality is; however, the bitrate as well as the data size will increase, causing a lower of the fps.

❖ De-Interlace

- You will view a sharper image when controlling the PTZ operation of a camera.

❖ Input Gain

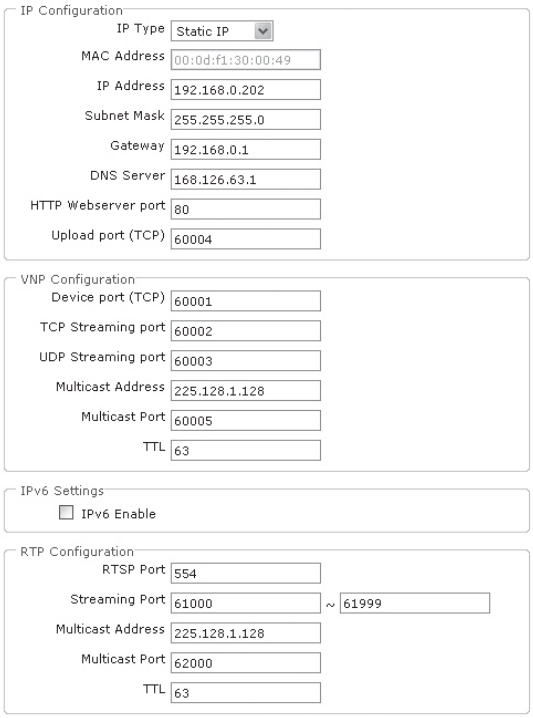
- Select the audio amplification level between 0 and 10.
  (* You will not be able to hear the audio data if the audio input gain is at zero.)

❖ Output Gain

- Adjust the audio output amplification strength from 0 and 10.

▪ What is GOP?
GOP(Group of Pictures) is a collection of video frames between the initial I-Frame (key frame) and the next I-Frame for MPEG4 video compression.
GOP contains three types of frames: I-Frame, P-Frame, B-Frame.
(SNC-C7478 uses only I-Frame and P-Frame.)
I-Frame is the default frame for video compression, also known as key frame, which contains one complete frame of an image.
P-Frame is a frame that contains data of only changes (removed portion) to the I-Frame.

IP



❖ IP Type

- Select the IP setting type from <**Static IP**>, <**Dynamic IP**> or <**PPPoE IP**>.

❖ MAC Address

- Shows the Ethernet MAC Address. Since this value is used to create a DDNS address, confirm the value.

❖ IP Address

- Shows the currently configured IP address. If the <**IP Type**> is set to <**Static IP**>, you can change the IP address.

❖ Subnet Mask

- Show the <**Subnet Mask**> address for the configured IP address.

❖ Gateway

- Show the <**Gateway**> address for the configured IP address.

❖ DNS Server

- Shows the IP address of the DNS (Domain Name Service) server.

❖ HTTP Webserver Port

- Show the HTTP port used to connect to the camera using the web browser. The default port number is 80(TCP).

❖ Device Port (TCP)

- A port used to control video transmission. The default value is 60001(TCP).

❖ TCP Streaming Port

- A port used to transfer video using the TCP protocols. The default value is 60002(TCP).

❖ UDP Streaming Port

- A port used to transfer video using the UDP protocols. The default value is 60003(UDP).

❖ Upload Port(TCP)

- A port used to upgrade software. Default value is 60004(TCP).

❖ IPv6 Enable

- IPv4 and IPv6 may be enabled simultaneously. When IPv6 is enabled, your camera will receive an IP address according to the configuration in the network router.

❖ Multicast Address

- Shows IP address set for video transmission using UDP Multicast.
  The default value is 225.128.1.128. It is recommended to set it to between 224.0.0.0 and 239.255.255.255.

❖ Multicast Port

- Shows UDP port set for video transmission using UDP Multicast. The default value is 60005(UDP).

❖ TTL

- TTL stands for “Time To Live” that allows you to set the number of routers so that the packet can pass through. Each router decreases the TTL value one by one when a packet passes it through. If the TTL value reaches 0, the packet cannot pass through a router. The default value is 63. It is recommended to set it to between 0 and 255.

❖ RTSP Port

- Set up the RTSP port number to use. The default value is 554.

❖ RTP Port Range

- Set up the range of port number to use for RTP Protocol.
  The Start number of RTP Port has to be even number and the last number must be greater than the start number +4. I.e. the difference should be at least 4.

❖ RTP Multicast Address

- Set up IP Address for RTP/UDP Multicast.

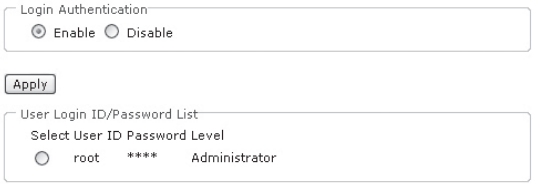
❖ RTP Multicast Port

- Set up Port number used in RTP/UDP Multicast. It is noted that RTP Multicast Port must be a even number.

❖ RTP Multicast TTL

- Set up TTL for RTP/UDP Multicast. TTL is a number between 0 ~ 255.

USER



❖ Login Authentication

- You can determine whether to require login authentication for users.
  If it is set to <**Enable**>, the users can connect to the system through login authentication, while it is set to <**Disable**>, the users can connect to the system without login authentication. However, users connected to the system without login have USER permission.
  When the setting is complete, click the [**Apply**] button.

❖ User Login ID/Password List

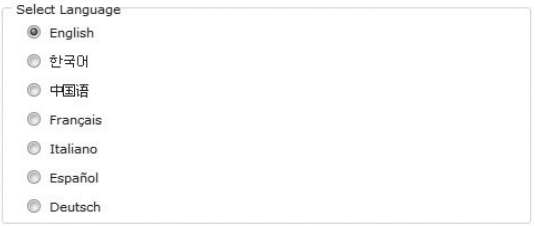
- Shows user ID, password and level (permissions) in a list.
  You can register up to 10 users.
  The default administrator ID is “root”.
  <**Administrator**> cannot be deleted or added and you can change the password only.

  - For the ID and password, up to 9 alphanumeric and some special characters are allowed.
  - You cannot register a duplicated user ID.
  - You cannot register root or guest user ID.

※ About User Level

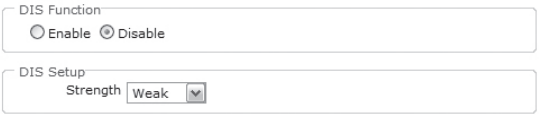
Administrator	The Administrator can use all functions and change the PTZ control, setup or search.
Operator	The Operator can use all function except setup and search functions.
User	The User can monitor video only.

LANGUAGE



You can select onc from 7 languages (English/Korean/ Chinese/French/Italian/Spanish/German).

DIGITAL IMAGE STABILIZER



❖ DIS Function

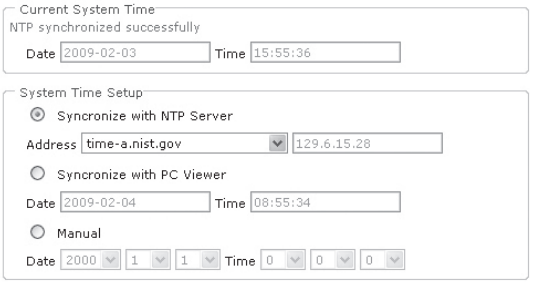
- DIS (Digital Image Stabilizer) is a function to compensate the shaken image. Owing to DIS function, clear image can be obtained regardless of vibration or shaking from the environment. Especially, this function can be powerful when camera is mounted on long pole, in the bridge, beside freeways, or in the windy region.

  - DIS Function is not effective to analog video form BNC Video Out but only effective in the digital video though IP networks.
    (i.e. Web viewer or NVR)

❖ DIS Setup

- Select one from Weak, Medium, and Strong. If you select Strong, you can obtain a sharper, but higher vibrating or shaky image comparing to Weak, and Medium.

DATE/TIME



❖ Current System Time

- Shows the time according to the setting of System Time Setup.

❖ System Time Setup

- You can set the time synchronized with NTP server (Time Server) or PC, or manually setup.
  (※ The date can be configured between 1 January 2000 and 31 December 2037)
  - NTP Server IPs are provided by a public agency and their list is therefore subject to change.
  - In a local network, a separate NTP server must be manually defined.
  - The current time can vary depending on the computers regional (GMT and DST) and country (PC time configuration) settings.

LOG

System Log List

First Previous 1/2 Next Last

Time	Item	IP
2009-2-3 15:44:33	User login	192.168.0.24
2009-2-3 15:35:45	System time changed	192.168.0.202
2009-2-3 15:35:43	Network is up	192.168.0.202
2009-2-3 15:35:34	System started	192.168.0.202
2009-2-3 05:00:15	System time changed	192.168.0.202
2009-2-3 04:32:23	User login	192.168.0.24
2009-2-3 04:00:58	User login	192.168.0.24
2009-2-3 04:00:12	System time changed	192.168.0.202
2009-2-3 04:00:11	Network is up	192.168.0.202
2009-2-3 04:00:02	System started	192.168.0.202
2009-2-3 03:59:04	Network param. changed	192.168.0.24
2009-2-3 03:56:57	Network is up	10.240.55.155
2009-2-3 03:46:14	Network is up	10.240.55.155
2009-2-3 03:46:05	System started	10.240.55.155
2009-2-2 23:48:48	System time changed	10.240.55.155
2000-1-7 08:01:56	User login	10.240.55.120
2000-1-7 07:56:04	User login	10.240.56.211
2000-1-7 07:55:57	Network is up	10.240.55.155
2000-1-7 07:55:54	User login	10.240.57.112
2000-1-7 07:55:48	System started	10.240.55.155
2000-1-7 07:54:50	Network param. changed	10.240.55.120
2000-1-7 07:49:39	Network is up	192.168.1.200
2000-1-7 07:49:31	System started	192.168.1.200
2000-1-7 07:42:29	User login	10.240.55.120
2000-1-7 07:41:54	User login	10.240.57.112
2000-1-7 07:41:46	Network is up	10.240.55.155
2000-1-7 07:41:41	User login	10.240.56.211
2000-1-7 07:41:38	System started	10.240.55.155
2000-1-7 07:38:16	Network param. changed	10.240.55.120
2000-1-7 07:31:34	Network is up	192.168.1.200

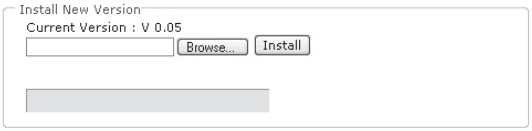
❖ System Log List

- Shows the log information about the system changes along with time and IP address.
  - User Log In : Shows current camera login user.
  - Video Configuration Change : Show video setting changes.
  - System Time Change : Shows time changes.
  - System Start : Shows time when the camera is turned on.

▪ Up to 2000 logs can be recorde.

▪ If the log number is over 2000, a log in the bottom of log list will be deleted and added new log information.

SOFTWARE UPDATE



❖ Current Version

- Shows the current firmware version.

❖ How to upgrade

- Click [**Browse…**] button and select the latest version of the firmware. Its file name should be ex) SNC-C7478-WEB_v1.XX_XXXXXX.tgz
- Click [**Install**] button. The file is uncompressed and the software update begins. Software update may take tens of minutes. To cancel an update, click the [**CANCEL**] button.
- When the software update is done, the system will automatically restart. Since the current connection is disconnected, you have to connect to the system again.

▪ Since, if the network is disconnected, the power fails or the PC abnormally operates during a software update, the system may not work afterwards. Care must be taken not to cause a problem during an update.

RESET

❖ Restart

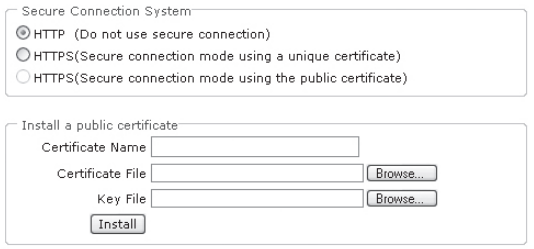
- Re-boots Network Smart Dome Camera.

❖ Factory Default

- Reset system configurations to the factory defaults with following two options.
  Except Network Parameter: Reset except values on Network Parameters.
  (IP Address, Gateway, Subnet Mask, DNS Server and Ports)
  All: Reset all system configurations

- After reset and restart, you have to connect to the system again.
- It takes a few minutes until the system booting is completed. You cannot connect to the system until the system booting is complete.
- After running <**Factory Default**> → <**All**>, you have to run <**IP Installer.exe**> program and setup network settings such as IP address, Subnet mask, Gateway, etc., to connect to the Internet.

HTTPS



❖ Secure Connection System

- Connection policy can be selected from <**HTTP(Do not use secure connection)**>, <**HTTPS(Secure connection mode using a unique certificate)**>, <**HTTPS(Secure connection mode using the public certificate)**>.
  To use HTTPS with Certificate from Authority for connection policy, you need to install a signed certificate issued from certificate authority in advance.

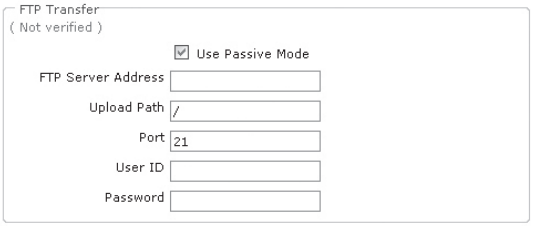
❖ Install a public certificate

- To install the certificate to camera, you need type Certificate Name (it can be arbitrarily assigned by user), Certificate file issued from authority and a key file. After completion, press [**Install**] button.
  If certificate is installed successfully, the summarized status of Installed Certificate will be displayed.
  Also, the option button written as <**HTTPS(Secure connection mode using the public certificate)**> in the above becomes activated to be selected.

- To connect the camera using HTTPS mode, you have to type IP address of camera as “https://<Camera_IP>”.

TRANSFER SETUP

You can set an FTP/E-mail(SMTP) server to send the prior/posterior alarm image saved in the camera when an alarm is generated.



FTP Transfer

You can transfer an alarm image to an FTP server. When the initial FTP server setting and connection are not verified, the <**Not verified**> messenger appears.

❖ Use Passive Mode

- Select this option when the passive mode connection is necessary due to firewall or FTP server setting.

❖ FTP Server Address

- Enter the IP address of an FTP server to which an alarm image will be sent.

❖ Upload Path

- You can set the path of the FTP account to transfer an alarm image. You can set a path by just typing <**/directory name**> or <**directory name**> in this field. If you do not specify a path, alarm files are sent to the root directory of the FTP account.

❖ Port

- Although FTP server port is 21 as a default, you can change the port number according to the FTP server settings.

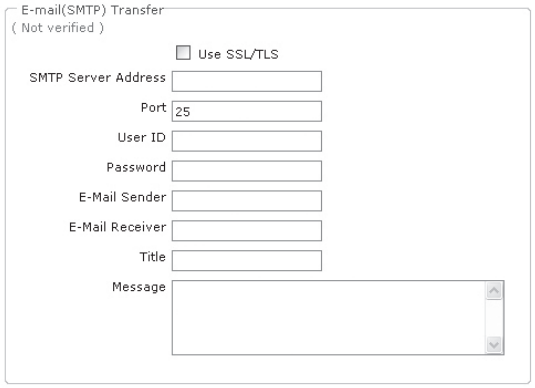
❖ User ID
- Enter a user account ID to connect to login the FTP server.

❖ Password
- Enter a user account password to login the FTP server.

❖ Test
- To test FTP transmission, Click [**Test**] button. Connect to the configured FTP server and conduct image transmission test automatically. When the FTP server connection and transmission tests are complete, the <**Verified**> message will be displayed. If the test fails, an error message appears. In this case, check the FTP server status and the configured settings once again.

E-mail (SMTP) Transfer

You can transfer an alarm image through Email. This function supports SMTP Email server only. When the initial SMTP server setting and connection are not verified, the <**Not verified**> message appears.



❖ Use SSL/TLS
- Choose whether SSL/TLS secure e-mail will be used. To use this, corresponding SMTP Server must support SSL/TLS.

❖ SMTP Server Address
- Enter the IP address of an SMTP server to be used to send an Email. ex) smtp.hotmail.com

❖ Port
- Although SMTP server port is 25 as a default, you can change the port number according to the SMTP server settings. (Default port number for SSL/TLS is 465.)

❖ User ID
- Enter a user account ID to connect to connect the SMTP server.

❖ Password
- Enter a user account password to the SMTP server.

❖ E-Mail Sender
- Enter the address of the Email sender. If the sender address is incorrect, the Email from the sender may be classified into SPAM mail by the SMTP server and may not be sent.

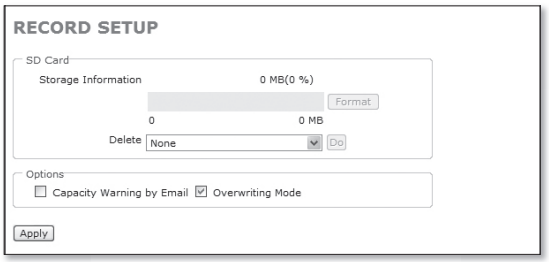
❖ E-Mail Receiver
- Enter the address of the Email recipient.

❖ Title
- Enter the title of the Email.

❖ Message
- Enter the contents of the Email. An alarm image is attached to the Email as an attached file.

❖ Test
- To test SMTP transmission, Click [**Test**] button. Connect to the configured SMTP server and conduct image transmission test automatically. When the SMTP server connection and transmission tests are complete, the <**Verified**> message will be displayed. If the test fails, an error message appears. In this case, check the SMTP server status and the configured settings once again.

RECORD SETUP

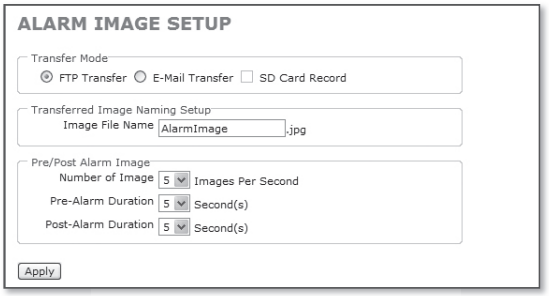


❖ SD Card
- Enables you to verify data saved on the Micro SDHC memory card and format the memory card itself. It is possible to set to automatically delete movie clips recorded before a certain period of time (e.g. 1 week, 1 month, or 1 year).

❖ Options

- Determine whether or not you wish to receive Email notification of insufficient capacity warnings.

ALARM IMAGE SETUP



❖ Transfer Mode

- You can select a method to send an alarm image from the <**FTP Transfer**>, <**E-Mail Transfer**> and <**SD Card Record**>.
  <**FTP Transfer**>: The image is sent to the specified FTP address.
  <**E-Mail Transfer**>: The image is sent to the specified Email address.
  <**SD Card Record**>
  - ▶ Insert an Micro SDHC memory card.
  - ▶ Configure the Micro SDHC memory card (refer to page 17 for details).
  - ▶ Check the SD Card Recording option and then click on the [**Apply**] button. The SD indicator will then turn on and recording will commence.
  - ▶ To remove the Micro SDHC memory card, first uncheck the SD Card Recording option and then click on the [**Apply**] button.

- Removing the Micro SDHC memory card while recording is in progress can damage the data.

❖ Transferred Image Naming Setup

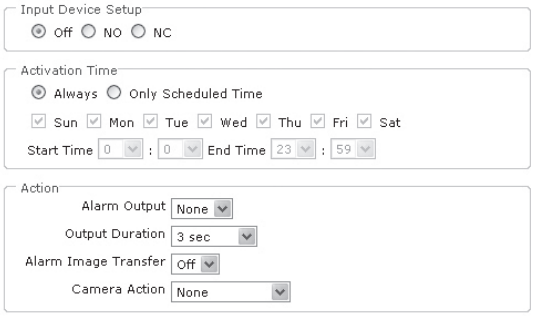
- You can set the file name of an alarm image to be sent when an alarm is generated or during the scheduled transfer.

❖ Pre/Post Alarm Image

- You can determine which of previous or posterior image is to be sent.
  <**Number of Image**>: Determines number of images to be sent per second. You can select 1, 2, 3 and 5 images per second.
  <**Pre-Alarm Duration**>: Determines time of prior images to be sent. You can select one from <**5 sec**>, <**10 sec**>, <**15 sec**> and <**30 sec**>. You can send a prior image of up to 30 seconds after an alarm is generated. (The maximum time is determined by the number of images to be sent per second.)
  <**Post-Alarm Duration**>: Determines time of posterior images to be sent. You can select one from <**5 sec**>, <**10 sec**>, <**15 sec**> and <**30 sec**>. You can send a posterior image of up to 30 seconds after an alarm is generated. (The maximum time is determined by the number of images to be sent per second.)

ALARM INPUT SETUP

Various functions of 8 Alarm Inputs can be set up independently.



❖ Input Device Setup

- Select an input type from the <**Off**>, <**NO**> and <**NC**>.
  <**NO**>(Normal Open): It is normally open, but if it is close, an alarm will be generated.
  <**NC**>(Normal Close): It is normally close, but if it is open, an alarm will be generated.

❖ Activation Time

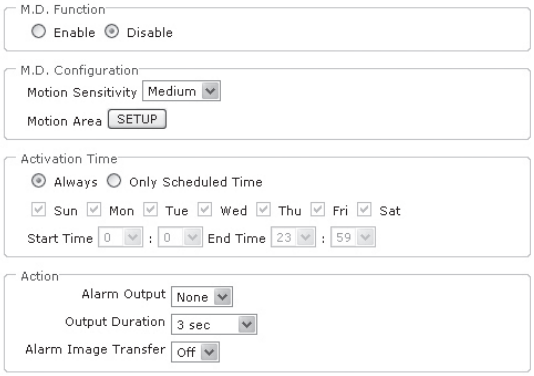
- You can set time to accept an alarm to take an action.
  <**Always**>: Always conducts the <**Action**> setting when an alarm is generated.
  <**Only Scheduled Time**>: Conducts the <**Action**> setting for an alarm only when it occurs during the specified time period on the specified day of the week. The Start Time must prior to and must differ from the End Time.

❖ Action

- You can set an operation to be conducted when an alarm is generated.
  <**Alarm Output**>: Determines alarm output port to which the alarm signal is to be sent.
  <**Output Duration**>: Determines the period of time to output alarm signal to the specified alarm output port when an alarm is generated. If another alarm

event is generated during the alarm output, the delay time is recalculated on the basis of the most recently generated an alarm.
<**Alarm Image Transfer**>: If <**On**> is selected, a JPG image is transmitted through FTP or Email(SMTP) or saved on the Micro SDHC memory card according to the <**EVENT**> → <**TRANSFER SETUP**> settings.
<**Camera Action**>: Counteraction of camera when Alarm Input event occurs can be selected from <**None**>, <**Preset 1 ~ 128**>, <**Pattern 1 ~ 4**>, <**AutoPan 1 ~ 8**>, <**Scan 1 ~ 8**>, <**Home Position**>.

MOTION



❖ M.D. Function

- Enable/Disable

▪ Even though Motion Detection is set to be enabled, this function is not working during PTZ, focus or Iris operations.

▪ For reliable performance, it takes about 1 or 2 seconds for Motion Detection to return to work after PTZ, Focus, Iris operation.

▪ Even if camera is subjected to external shocks or winds, those can be considered as motion detection.

❖ M.D. Configuration

- Set the motion detection area and the sensitivity.

❖ Motion Sensitivity

- Select a motion detection function sensitivity from <**High**>, <**Medium**> and <**Low**>. The <**High**> option provides high sensitivity of motion detection and generates motion detection event if a small motion is detected.

❖ Motion Area

- You can set an area to detect motion.

❖ Activation Time

- You can set time to accept a motion detection to take an action.
<**Always**>: Always conducts the <**Action**> setting when a motion is detected.
<**Only Scheduled Time**>: Conducts the <**Action**> setting for a motion detection only when it occurs during the specified time period on the specified day of the week. The Start Time must prior to and must differ from the End Time.

❖ Action

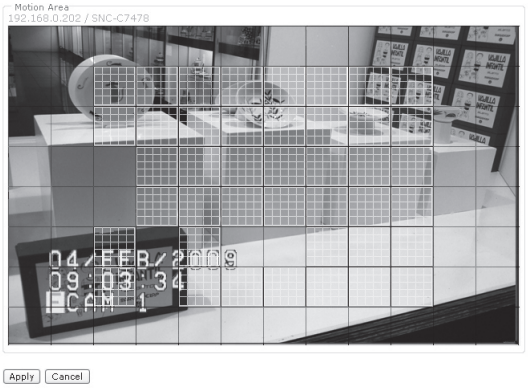
- You can set an operation to be conducted when a motion is detected.
<**Alarm Output**>: Determines a motion detection output port to which the alarm signal is to be sent.
<**Output Duration**>: Determines the period of time to output the alarm signal to the specified alarm output port when a motion is detected. If another detection event is generated during the alarm output, the delay time is recalculated on the basis of the most recently generated motion detection.
<**Alarm Image Transfer**>: If <**On**> is selected, a JPG image is transmitted through FTP or Email (SMTP) according to the <**EVENT**> → <**Transfer Setup**> settings.

To set a motion detection target area

You can set a specific area to detect a motion in.

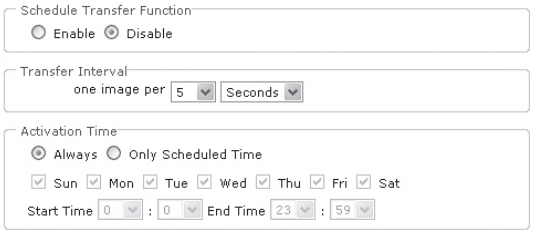
1) In the MOTION window, click the [**Motion Area**] button.
   - The Motion Area window appears.
   - You can set a specific area to detect a motion in.
2) Click over square boxes corresponding to your desired motion detection target area.
   - The selected area is colored in yellow.
3) To cancel a selection, click over the square box once again.
   - The square box returns to its original color.
4) Click the [**Apply**] button of Motion Area window.
5) To complete the setting, click the [**Apply**] button of Motion Setup.
   - If you don't click the [**Apply**] button of Motion Setup, Motion Area isn't saved.

- The motions in the selected area will be detected.



SCHEDULE

You can have a JPEG image sent through FTP and Email periodically.



❖ Schedule Transfer Function

- <**Enable**> activates the scheduled transmission function, while <**Disable**> disables the function.

❖ Transfer Interval

- You can set the time interval to transmit images. You can select a unit of time from <**Seconds**> or <**Minutes**>.
  You can set the time interval so that an image is transmitted every 5/15/30/45/60 seconds or minutes.

❖ Activation Time

- You can set the time to execute the scheduled transmission function.
  <**Always**>: Always transmits images according to the specified interval.
  <**Only Scheduled Time**>: Transmits images according to the specified interval during the specified time period on the specified day of the week.

▪ The Start Time must be prior to and must differ from the End Time.

STREAMING SETUP

You can control the data transfer rate according to the camera video streaming type and network bandwidth.

❖ Streaming Protocol

- You can select a protocol for video transmission from the <**TCP**>, <**UDP(Unicast)**> and <**UDP(Multicast)**>.
  <**TCP**>: It is a general purpose protocol used for a transmission that requires reliability. Since it provides a connection based communication between the sender and recipient, it provides high reliability against transmission data loss. However, it is inappropriate to transmit a large amount of data in real-time because of its transmission overhead. It enables reliable data transmission over xDSL and cable network at a relatively slow speed.
  <**UDP(Unicast)**>: It refers to transmitting data to only one receiver (1:1).
  <**UDP(Multicast)**>: It refers to the data transfer protocol in one-to-many (1:N) between the transmitting and receiving terminals. Although it alleviates the network load, it requires <**Multicast**> router. For more information such as whether the network over which the camera is installed supports <**Multicast**>, ask your network administrator.

UDP: It is a protocol appropriate to transmit a large amount of data such as multimedia data in short time. However, it provides higher transmission efficiency than TCP especially over high speed connections faster than 100Mbps.

- With multicast activated, it is not possible to perform video recording search.
- Audio cannot be transmitted to the camera through the microphone.
- Multicast backbone (MBone) is not supported, and the camera can only be used in a LANbased multicast environment.

Streaming Control

You need to set the bandwidth to an appropriate value according to the data rate of your network for smooth video streaming.

- You can set the <**Bandwidth**> by selecting one from <**Unlimited** / **5Mbps** / **3Mbps** / **1Mbps** / **600Kbps** / **300kbps** / **150Kbps**>.
- If your network provides data rate equal to or higher than 100Mbps, it is recommended to set the <**Bandwidth**> to <**Unlimited**> or <**5Mbps**>. If you are using a broadband Internet connection, set the <**Bandwidth**> to <**3Mbps**> or <**1Mbps**>.
- If you are using low speed xDSL network, set the <**Bandwidth**> to <**600Kbps**> or lower for smooth video streaming.
- The maximum number of images per second in the video setting menu is automatically determined depending on the selected <**Bandwidth**> value.

❖ RTP Streaming Protocol

- You can select a protocol for RTP streaming from the <**UDP(Unicast)**>, <**UDP(Multicast)**>.

DDNS

DDNS is an abbreviation of Dynamic Domain Name Service that converts the IP address of a camera into a general Host Name so that the user can easily remember it and enables connecting a camera with a fixed Host Name even if the IP address of the camera may be dynamically changed.

❖ DDNS SETUP

- Select your DDNS Update function from Disable/ Samsung DDNS/Public DDNS.

❖ Samsung DDNS

- For Samsung DDNS service, Host Name is assigned using last 3 bytes of MAC Address. For example, your host name will be “e + fffe42 + .websamsung.net = efffe42.websamsung.net” when your MAC address of camera is 00:0D:F1: FF:FE:42.
  Type Host Name (efffe42.websamsung.net) in the address widow of Internet Explorer to connect.

❖ Public DDNS

- For Public DDNS, you can select one from dyndns.com or no-ip.com.
  To use public DDNS service, sign up a DDNS site that is supported by a camera and use it with the user ID and password you have specified when you sign up the site.

❖ Host Name

- Type the host name registered in DDNS service (i.e. Host name in Dyndns)

❖ User Name

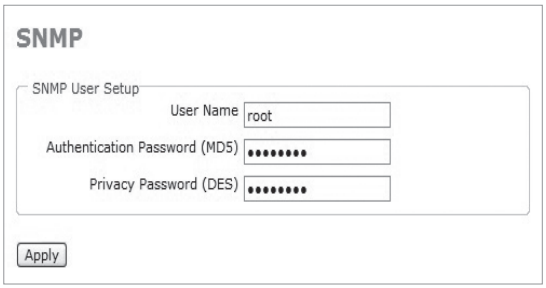
- Type user name used for DDNS service (i.e. User Name(ID) registered in Dyndns)

❖ Password

- Type the password used for DDNS service (i.e. Password registered in Dyndns).

SNMP

The system information of the cam can be monitored and changed by SNMP. SNMPv1 or SNMPv2 are utilized to monitor of the system information and SNMPv3 enables to change the system information.



❖ SNMP User Setup

- The version3 can set up the account information for SNMPv3 owing to authentificating the account and the password.

  <**User Name**>: Possible to input under 20 English letters of numbers to authenticate the user.

  <**Authentication Password (MD5)**>: Possible to input at least 8~20 to authentificate the user.

  <**Privacy Password (DES)**>: Possible to input at least 8~20 to encode.

TROUBLESHOOTING

PROBLEM	SOLUTION
I can't access the camera from a web browser.	• Check to make sure that the camera's Network settings are appropriate. • Check to make sure that all network cables have been connected properly. • If connected using DHCP, verify that the camera is able to acquire dynamic IP addresses without any problem. • If connected using a DDNS URL, verify that the MAC address has been properly entered. • If the camera is connected to an xDSL network, ensure that Bandwidth is set to less than 600Kbps. Because xDSL offers slow connection speed, setting Bandwidth high results in network load and hinder network connection. • If the camera is connected to a router, verify that port forwarding is properly configured.
Viewer got disconnected during monitoring.	• Connected Viewers become disconnected upon any change to camera or network configurations. • Check all network connections. • If the camera is connected over an xDSL network, it's possible for Viewer to disconnect under poor network conditions.
I cannot connect to the system using a tab browser of Internet Explorer 7.0.	• When you try to connect to the system using a tab browser, the same cookie information is shared, resulting in errors when connected. Therefore, instead of using a tab browser, open a new browser window to connect to the system.
The camera connected to the network is not detected in the IP installer program.	• Turn off the firewall settings on your PC and then search the camera again.
Images overlap.	• Check whether two or more cameras are set to a single multicast address instead of different addresses. If a single address is used for multiple cameras, the images may overlap.
No image appears.	• If the transmission method is set to multicast, check whether there is a router that supports multicast in the LAN the camera is connected to.
I enabled Motion Detection Feature under Motion Detection, but .jpg files are not getting sent over FTP/ SMTP even after motion detection occurs at the camera.	• Verify the settings in the following sequence: A. NTP must be properly configured. B. Motion Detection Feature must be enabled. C. Alarm Video Transmission must be enabled. D. Check for scheduling conflict.
Is it possible to configure Motion Zone with Motion Detection Feature disabled?	• Yes. Motion Zone can be configured independently of whether or not Motion Detection Feature is in use.
A motion event took place but didn't trigger an alarm.	• Check alarm output port settings.

PROBLEM	SOLUTION
Data is not getting recorded on the Micro SDHC memory card.	• Make sure that the memory card is not defective.
SD Indicator will not turn on after inserting an Micro SDHC memory card.	• Make sure that the memory card is not defective. • Go to Configurations → Events → Alarm Image Settings and verify that SD Card Recording option is checked.
I inserted an Micro SDHC memory card, but the camera isn't working properly.	• Make sure that the memory card has been inserted correctly in the right direction. With memory cards that have been formatted from a different device, their performance cannot be guaranteed when used in the camera. Go to Configurations → Events → Recording Settings and format the memory card again.

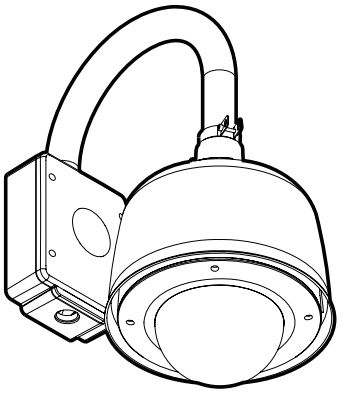
SPECIFICATIONS

Item		Details
Camera	CCD	1/4" Interline Transfer CCD
	Effective Pixels	SNC-C7478N : 768(H) × 494(V) / SNC-C7478P : 752(H) × 582(V)
	Horizontal Resolution	Color : 540 / BW : 570 TV Line
	S/N Ratio	Approx. 50 dB
	Zoom	x36 Optical Zoom, x12 Digital Zoom
	Focal length	f=3.4mm(Wide) ~ 122.4mm(Tele), F1.6 ~ F4.5
	Min. illumination	illumination / Sens-up / Color / B/W 50 IRE — No — 1.40 Lux — 0.15000 Lux 30 IRE — No — 0.84 Lux — 0.09000 Lux 15 IRE — No — 0.42 Lux — 0.04500 Lux 50 IRE — 64 times — 0.0219 Lux — 0.00230 Lux 30 IRE — 64 times — 0.0131 Lux — 0.00140 Lux 15 IRE — 64 times — 0.0066 Lux — 0.00070 Lux
	Day & Night	Auto 1/Auto 2/ Day / Night(ICR)
	Focus	Auto / Manual / ONEAF
	Iris	Auto / Manual
	Shutter Speed	X64 ~ X2, 1/60 ~ 1/10,000s
	AGC	Auto/Manual(-3 ~ 28dB)
	White Balance	Auto / Manual(Red, Blue Gain Adjustable)
	WDR, BLC	WDR On/Off, BLC On/Off
	Flickerless	Selectable
	Privacy Zone	8 Area
Pan/Tilt	Range	Pan : 0~360°(Endless)
		Tilt : 180°
		Preset : 360°/sec
	Pan/Tilt Speed	Manual : 0.05 ~ 200°/sec (Inversely Proportional to Zoom)
		Auto Pan : 1 ~ 180°/sec
	Preset	127 Preset (Label, Camera Image Setting)
	Pattern	4 Pattern, 1000 Commands(About 5 Minute)/Pattern
	Auto Pan	8 Auto Pan
	Scan	8 Scan (20 action entities per Scan)
	Other Functions	D-Flip, Auto Parking, Power Up Action etc.
General	Communication	RS-485
	Protocol	Auto, Samsung selectable
	Privacy Zone	8 Zone
	Alarm Input	8 Input
	Alarm Output	4 Relay Output
	OSD	Menu / PTZ Information etc Support 7 Languages: [ENGLISH /ESPAÑOL /FRANÇAIS /DEUTSCH /ITALIANO /РУССКИЙ /PORTUGUÊS]
	Power Consumption	AC 24V 23W(Heater OFF)/55W(Heater ON)
	Dimension	Camera (Camera Only): (Ø × H) : 259 × 265.7 (mm) : 10.2 × 10.46 (inch)
		Camera (With a mount bracket): Wall Mount Type (W X H X D): :259X404.5X 551.7(mm) :10.2X15.9X21.7 (inch)
		Camera (With a mount bracket): Ceiling Mount Type (Ø X H): : 259X648.7 (mm) : 10.2X25.54 (inch)
	Weight	Wall Mount Type : About 6 kgf (13.2 LB)
		Ceiling Mount Type : About 5.8 Kgf (12.8 LB)
	Operating Temp.	-45°C ~ 50°C(-49°F ~ 122°F)

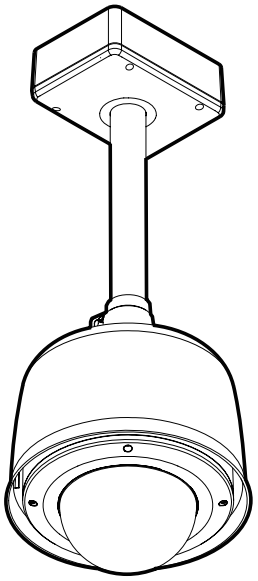
✻ Specifications of this product can be subjected to change without notice.

❖ Appearance

• Wall Mount



• Ceiling Mount



appendix

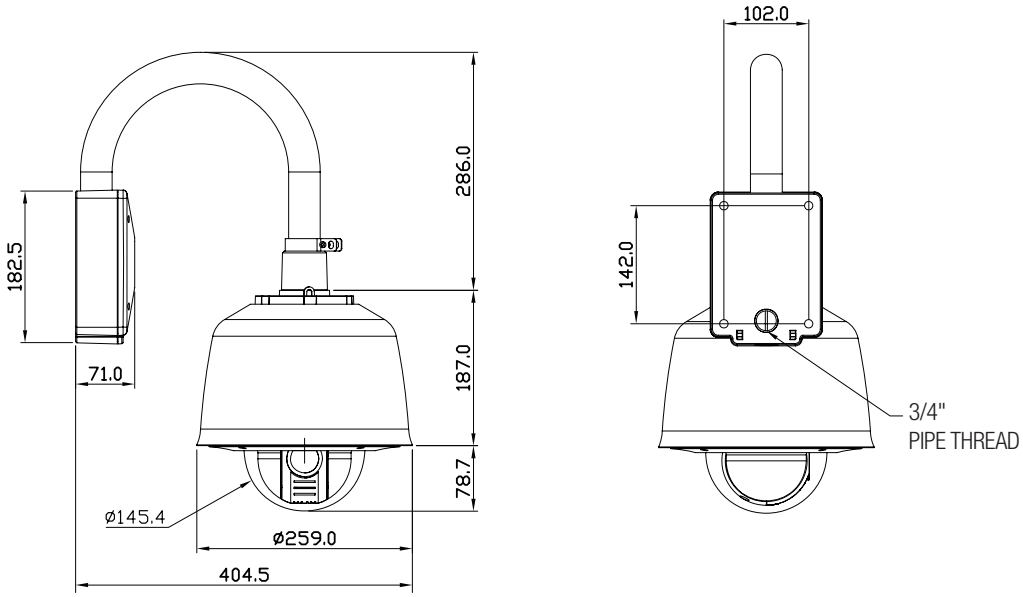
SPECIFICATIONS

Item				
			NTSC	PAL
Network Board	OS		Embedded Linux	
	Hardware	Flash memory	32M byte	
		RAM	256M byte	
		DSP	TI Davinci	
		Ethernet	RJ-45 (10/100BASE-T)	
Video	Compression		MPEG4 / MJPEG Dual Codec	
	Resolution	D1	720x480	720x576
		VGA	640x480	640x480
		CIF	352x240	352x288
	Frame Rate		30, 15, 8, 3, 1fps	25, 13, 6, 3, 1fps
	Quality		1 ~ 10 level	
Audio	Compression		G.711	
	Bi-Directional Communication		Yes	
DIS	Digital Image Stabilizer		Yes (Network Only)	
Motion Detection	Sensitivity		High, Medium, Low	
Protocol	IP		IPv4 / IPv6	
	Network Protocol	IPv4	TCP/IP, UDP/IP, RTP/RTSP, NTP, HTTP, HTTPS, SSL, DHCP, PPPoE, FTP, SMTP, ICMP, IGMP, SNMPv1/v2c/v3(MIB-2), ARP, DNS, DDNS	
		IPv6	TCP/IP, HTTP, HTTPS, SSL, DHCP	
	Streaming		Unicast, Multicast	
	Security		HTTPS(SSL), Digest Authentication (ID/PW)	
	DDNS		Supporting Samsung DDNS and Public DDNS servers	
Connection	Maximum User Access		Max 10 Users at Unicast Mode Max 20 Users at Multicast Mode	
	User Access Level	Administrator	Live Monitoring, PTZ control, SETUP	
		Operator	Live Monitoring, PTZ control	
		User	Live Monitoring	
Event	Alarm Input		JPEG Image transfer : FTP, E-mail, Micro SDHC Card Record Notification : notify to viewer Alarm Out	
	Motion Detection		JPEG Image transfer : FTP, E-mail, Micro SDHC Card Record Notification : notify to viewer Alarm Out	
	Schedule		JPEG Image transfer : FTP, E-mail, Micro SDHC Card Record	
Client Viewer	OS		Windows XP, VISTA	
	Web browser viewer (Default)		Internet Explorer 6.0 or Higher	
	Video Player		Quicktime, VLC player (RTP/RTSP)	
Language	Web Viewer UI Language		English/한국어/中國語/Français/Italiano/Español/Deutsch	
Upgrade	S/W upgrade		Using Web viewer	
SDK	HTTP API	CGI Command	Provides functionality to control cameras and set/retrieve internal parameter values. Get JPEG image or MJPEG stream Alarm In/Out control, PTZ control	
	RTP/RTSP API		RTP Header, RTSP Command Document	
	ActiveX	SDK	ActiveX API for viewing data streams from network camera.	

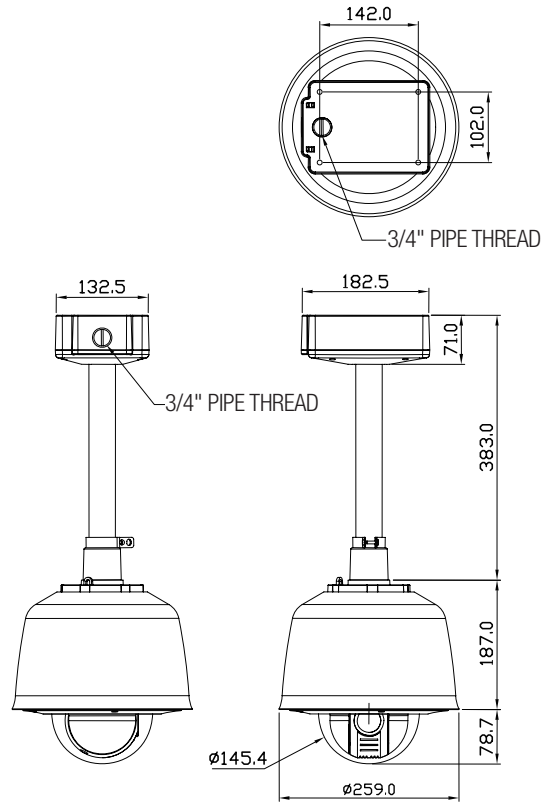
DIMENSION

• Wall Mount Bracket

Unit (mm)



• Ceiling Mount Bracket



Correct Disposal of This Product (Waste Electrical & Electronic Equipment)

(Applicable in the European Union and other European countries with separate collection systems)

This marking on the product, accessories or literature indicates that the product and its electronic accessories (e.g. charger, headset, USB cable) should not be disposed of with other household waste at the end of their working life. To prevent possible harm to the environment or human health from uncontrolled waste disposal, please separate these items from other types of waste and recycle them responsibly to promote the sustainable reuse of material resources.

Household users should contact either the retailer where they purchased this product, or their local government office, for details of where and how they can take these items for environmentally safe recycling.

Business users should contact their supplier and check the terms and conditions of the purchase contract. This product and its electronic accessories should not be mixed with other commercial wastes for disposal.

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